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THE
HISTORY
OF THE
SMALL POX,

BY JAMES MOORE,

MEMBER OF THE ROYAL COLLEGE OF SURGEONS OF LONDON,
SURGEON OF THE SECOND REGIMENT OF LIFE GUARDS,
AND DIRECTOR OF THE NATIONAL VACCINE ESTABLISHMENT.

unde repente
Mortiferam possit cladem conflare coorta
Morbida vis hominum generi,
Expeditam.

LUCRET.

LONDON:
PRINTED FOR LONGMAN, HURST, REES, ORME, AND BROWN,
PATERNOSTER-ROW.
1815.

TO
EDWARD JENNER, M.D. F.R.S.

&c. &c. &c.

MY DEAR FRIEND,

AS no man before you had ever conceived the possibility of exterminating a distemper, your plan for annihilating the most fatal contagion that ever infested the earth occasioned much astonishment, and drew forth, as is usual with works of genius, abundance of controversial productions. For, among the practitioners of the healing arts, Hygeia found enemies; and Disease and Death, friends.

The aid of others being indispensable for the accomplishment of your beneficent design, I, who have long been engaged in endeavouring to promote it, resolved to

write the Histories of the Small Pox and of the Vaccine, that by displaying to the Public the baneful effects of the one, and the benign consequences of the other, the value of your surpassing discovery might be justly estimated.

Accept then of this work, with all its imperfections, as a proof, at least, of my zeal for your fame; and of my ardour for the success of an invention calculated to rescue from misery and death, not only a large proportion of those human beings who now exist, but also of those who shall see the light in succession, down to the most remote periods of time.

Whilst I breathe, I shall remain,

with the highest esteem,

your Faithful Friend,

JAMES MOORE.

CONDUIT-STREET, LONDON,

MAY, 1815.

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THE
HISTORY
OF
THE SMALL POX.

CHAP. I.

VARIOUS OPINIONS ON THE ORIGIN OF THE SMALL POX.

INFECTIONOUS diseases spring up in obscurity, and extend indefinitely : but if opposed with judgment, they might, like empires, be controlled ; and would decline and fall.

The Small Pox has past through the first stages, and is now sinking into the last. Yet some lovers of paradoxes have maintained, that this malady, and the Measles, with which it was at first confounded, were coeval with the human race ; and were described under different names by Hippocrates, Celsus, Galen, Ætius, and other antient medical writers. The last assertion was urged briefly, but positively

by Salmasius * : and after him, Johannes Hahn†, a laborious Dutchman accumulated many passages from the classics to prove it : he has not only quoted the medical writers, but he suspected that he saw in the comedies of Aristophanes, in the satires of Horace, and in the Institutions of Quintillian, allusions to persons pitted with the Small Pox. Every ugly visage appeared to him seamed with the scars of that distemper.

Though this work was most satisfactorily refuted by Dr. Werlhoff‡ Physician to the Elector of Hanover, yet the opinion continues to be occasionally broached by certain scholars, who, in fact, are the libellers of the Greek and Roman authors ; whose works are distinguished for perspicuity, the first quality in didactic compositions. Their descriptions of diseases, are so clear and correct, that they have always been recommended by men of taste as models for imitation. Would they have merited these commendations, if they had described a disease of such importance as the Small Pox, in language so obscure and equivocal, that only a few minute critics can find out what disease is meant ?

* Cl. Salmasii, de Annis Climacteric. Lug. 1648.

† Variol. Antiq. Autor. Johan. Hahn.

‡ Werlhoff. Disquis. Med. de Variol. et Anthrax. 1733.

If such had been their style, those remaining emanations of ancient wisdom would be as little worth preserving, as the heavy lucubrations of Johannes Hahn.

The learned Friend * ridiculed agreeably, this scholastic prating, which acquires all its plausibility from the difficulty of giving correct ideas of appearances by words, and from those employed not being accurately defined. It is only a few years since Dr. Willan, observing these defects, endeavoured to supply them, in his excellent Treatise on Cutaneous Diseases, by annexing coloured prints of each malady; and by discriminating every name by a definition. The want of this method is felt in studying the works of the antients, in which the eruptions are merely described: and as some of them have a considerable resemblance to the Small Pox, there must likewise be a similitude in the descriptions †. Indeed, in some particular cases, the resemblance is so great as to deceive the experienced. But an author, even of moderate capacity, when he treats of the Small Pox, always gives those striking characteristics,

* “Variolæ Græcis fuerint incognitæ, quicquid nonnulli
“ e recentioribus contra garriant.” Histor. Medicin. I. Friend,
M. D.

† Ætii Tetrabili Secundæ Serm. i. cap. 129.

which make it impossible to mistake the malady of which he is discoursing. Let any of the early writers on the Small Pox, Isaac or Rhases for example, be examined : it will be found that they describe the breaking out of the eruption, its advancement to maturity, the different kinds of pustules, which spread over the whole body, mouth and throat : their occasioning scars upon the skin, and sometimes opacities in the eyes. They also recommended a number of remedies, though quite inadequate, to smooth the skin, and to clear the eyes of opaque spots : an account like this cannot be misunderstood ; but it is fruitless to examine the Grecian authors for any that is at all similar. Erysipelas, erythema, lepra, herpes, and scrophula, are fully described by them ; pimples, vesicles, and pustules are also spoken of ; but there is no account of a distemper clearly characterised like the Small Pox by the Arabians, though they were far inferior writers to Celsus, Galen, or Aretæus. There is also another disease, which, it is pretended, that these accomplished physicians had seen, and described ; though the hints are so obscure as to be comprehended only by a few, and to be of use to nobody. But these immortal authors require no defence. Their most useful and perspicuous works completely refute all such accusations.

It was next imagined with as little reason, by Prosper Alpinus *, that not only the plague and the leprosy, but also the Small Pox, were concocted by the putrid waters of the Nile: although the Nile had inundated and fertilized Egypt for thousands of years previously to the Small Pox having been observed in that country. Notwithstanding this fatal objection, Dr. Paulet, a French physician, who wrote † a history of the small pox, adheres to the Nile as the cause of this disease: and to explain its appearing so late, he supposed that the neglect of the magnificent canals constructed by the Ptolemies, occasioned an augmentation of the pestiferous quality of the mud. But there was certainly abundance of filth and stagnant water in Egypt, and in other countries, before the reign of the Ptolemies.

This author also strenuously maintains that both Small Pox and measles existed in Europe in the sixth century; which notion has acquired additional importance, from having been adopted by the writer of that useful work, intitled *L'Art de verifier les Dates*. ‡

The principal reason for this opinion, is the

* De Medicina Ægyptiorum. Prosp. Alpin. cap. 13.

† Histoire de la Petite Verole. Tom. i. Art. 3.

‡ Tom. i. p. 238.

following passage in an antiquated Chronicle, attributed to Marius Bishop of Vaux, in Switzerland; "In the year 570, a violent malady, with a relaxation of the bowels, and the Variola, (supposed to mean Small Pox,) afflicted Italy and France." *

As this is the first time in which the word *variola* was ever employed, and as no definition is given, its intended signification must be doubtful. Especially, as this word is not to be found in any other author, till between three and four hundred years afterwards.

The Chronicle above mentioned was brought to light by De Chene the Jesuit, and was simply inscribed *Mario Episcopo*. From which inscription, and from internal evidence, it is ascribed to Marius Aventicensis, a Bishop of Lausanne in the 6th century. The manuscript bore the marks of great antiquity, from which it may be presumed, not to have been very legible. And the term, *variola*, may possibly have been an interpolation of a modern transcriber to supply a word which he could not decypher. But if that word was really used by

* "Hoc anno (570) morbus validus cum profluvio ventris, et variola Italiam Galliamque afflixit." Recueil des Historiens des Gaules &c. par Mart. Bouquet. Tom. ii. Marii Episc. Chronicon.

this old chronologist, it is clear from the subsequent passage, that he did not mean by it the Small Pox. For in narrating the continuation of the mortality during the next year, he describes the distemper in the following terms : —

“In this year (571) the dreadful malady, with a * glandular swelling, named a Pustule, destroyed an innumerable multitude of people in the countries already mentioned.” This was evidently the true Plague, which by the early writers was commonly called the Inguinal or Glandular Plague.

But should the slightest doubt remain upon this subject, the evidence of Gregory, Bishop of Tours, must remove it. This Saint was an eye-witness of the disease, and, with the exception of a simile, he has described it with considerable precision, in these words †; “When

* “Hoc anno (571) infanda infirmitas, atque glandula, cujus nomen est Pustula, in supra scriptis regionibus, innumerablem populum devastavit.” *Chronic. Marii Aventic.* dans les *Recueil des Histor. des Gaules, &c.* Tom. ii. p. 18.

† Jam vero adveniente ipsa clade, tanta strages de populo illo facta est per totam regionem illam, ut nec numerari possit quantæ ceciderunt legiones. Nam cum jam sarcofagi aut tabulæ defecissent, decem, aut eo amplius in una humi fossa sepeliebantur. Numerata sunt autem quadam dominica in una beati Petri basilica trecenta defunctorum corpora : erat enim et ipsa mors subita. Nam nascente in inguine aut asello

the calamity arose, it occasioned such a depopulation of the whole country, that the numbers who were destroyed could not be calculated; for when tombs and coffins failed, ten or more bodies were buried in the same grave. And on one Sunday, three hundred corpses were numbered in the church of St. Peter alone. Their death was sudden: for a sore appeared upon the groin, or arm-pit, by which the sufferers, as by the bite of a serpent, were so infected with venom, that they died on the second or third day."

This malady was evidently not the Small Pox, but the Plague, in its most malignant form. Dr. Paulet also supposed, that the disease which in the year 580, destroyed Queen Austrigild, and also Dagobert and Clodobert, the sons of Chilperic, and of the dreadful Fredegonde, was the Small Pox. But Gregory of Tours, describes that malady as follows *; "While the Kings were

vulnere in modum serpentis, ita inficiebantur homines illi a veneno, ut die altera aut tertia spiritum exhalarent. Historia St. Gregor. Turon. lib. iv. chap. 31.

* "Nam discordantibus regibus, et iterum bellum civile parantibus, dysentericus morbus pene Gallias totas præoccupavit. Erat enim his qui patiebantur, valida cum vomitu febris, renumque nimius dolor, caput grave vel cervix. Ea vero quæ ex ore projiciebantur, colore croceo, aut certe viridia erant: à multis autem adscribatur venenum occultum, esse.

quarrelling, and again making preparations for a civil war, a dysentery spread over almost all France. Those who suffered, were seized with violent fever, vomiting, great pain in the loins, and a heaviness of the head and neck. What was vomited, was of a yellow or green colour ; and many asserted it was occasioned by a secret poison, called by the peasants Coral Pustules ; because, when cupping glasses were applied to the shoulders and legs, blisters then arose, and broke, and by their discharge preserved many. Others also derived advantage from those herbs which are the antidotes of poisons. This distemper arose in the month of

Rusticiores vero Corales hoc pustulas nominabant : quod non est incredibile, quia missæ in scapulis, sive cruribus ventosæ, procedentibus erumpentibusque vesicis decursa sanie multi liberabantur ; sed et herbæ quæ venenis medentur, potui sumptæ, plerisque præsidia contulerunt. Primum hæc infirmitas à mense Augusto initiata parvulos adolescentes adripuit, letoque subegit. Perdidimus dulces et caros nobis infantulos quos aut gremiis fovimus, aut ulnis bajulavimus, aut proprio manu ministratis cibis ipsos studio sagaciore nutrivimus.”

There are various other readings upon this passage, with the following unsatisfactory note.

“ Colb. coriales hoc pustulas. Bad. corales, hoc est, pustulas, (Dub. corales hoc pustulas) Erant ni fallor, pustulæ in corde ortæ et ideo Corales dictæ ; vel quod sputæ essent purpurei coloris corallio similis.” St. Gregor. Epist. Turon. Ex. Histor. Gallor. Francor. &c. Bouquet, tom. ii. p. 252.

Dr. Paulet translates the words, corales pustulas, pustules du cuir ; as a natural expression for peasants to employ ; derived from corroi, or coriace. Vid. tom i. p. 81.

August, and carried off many young people. We also lost some sweet infants who were dear to us ; whom we cherished in our bosom, dandled in our arms, and fed most carefully with our own hands.”

This account, in which the symptoms observed by the Bishop are mingled with a notion entertained by the peasants, does not certainly convey a very clear idea of the nature of the disease. Yet it is sufficient to evince that it was not the Small Pox ; though M. Paulet gives the quotation to prove that it was. The interest which St. Gregory felt, and the attention he bestowed upon the children, whose fate he deplores, give every reason for believing that he would omit no striking symptom. But if these children had contracted the confluent Small Pox, their whole skin, and the inside of their mouths and throats would have been spotted with pustules, ; while with closed eyes, and features hideously swollen, their bodies would have exhaled a most offensive smell. These concomitants of the confluent and fatal Small Pox, would have struck St. Gregory with horror, and could not have been overlooked in his narrative.

The Herman Chronicle * asserts plainly,

* Tres filii Hilperici Dysentaria periere. — Ex. Chronic. Herman. cont. Recueil des Histoires des Gaules, &c. Bouquet, tom. iii. p. 323.

“That the three sons of Chilperic died of the Dysentery:” and the grand Chronicle of France, preserved in the archives of the church of St. Denis, explicitly confirms this: for, after recording the death of the young Princes, it is then stated, that “a disease *, called by the physicians the Dysentery, was spread (in the year 580) over the whole of the kingdom of France. And this distemper attacked Austrigild, the wife of Guntram (King of Burgundy), who accused her physicians of having neglected to cure her. It was by their fault, she said, that the disease had been suffered to form, and to increase to that degree that she could not escape. Although there was no other proof of the negligence of the two physicians (Nicholas and Donat), than their failing to cure the Queen, yet the King commanded that both of them should be put to the torture, and executed.” It is doing great injus-

* “Une maladie que phisicien apelent disintere, pourpriest anques tout le Roiaume de France. En cette enfirmité chaï Austrigilde la fame le Roi Goutrans: a son Seigneur se clama des Phisiciens, de ce que il avoient esté nègligent de la garir, si comme elle disoit, et que par leur défaut l’avoit la maladie si forment seurmontée qui james eschaper n’en pavoit. Comment que la negligence fut des Phisiciens elle dit voir: car elle morut de cette maladie; pour ce commanda li Rois que li Physiciens fussent occiz et avant tourmentez de divers paines.” Chroniques de Saint Denis dans les Recueils des Historiens de la France, &c. Bouquet, tom. iii. p. 227.

tice to the ecclesiastical historians of that age, who were by no means ignorant men, to suspect that they could mistake the Small Pox for the Dysentery, maladies totally unlike each other ; but to accuse the physicians also of so gross an error, is to treat their posthumous reputation as cruelly as they were treated when alive, by those barbarous Sovereigns.

Aimon *, a monk of Fleury, also avers, that the Epidemic which afflicted Austrigild, was the Dysentery, and because the physicians failed in curing her, they were tortured and executed by the order of Guntram, at the instigation of the Queen ; who after this atrocity was perpetrated, breathed her last.

In another very ancient compilation, entitled “ The Historical Mirror,” it is narrated, that when Chilperic and his two sons were seized with sickness, Fredegorde was so affected as to propose, in expiation of her sins, to burn the registers of a heap of iniquitous exactions, which had not yet been extorted from their subjects. This was acquiesced in by the sick King, who

* “ Et Dysenterix morbus totas propè occupavit Gallias. Qua peste Austrigilis Regina Guntranno, Regi nupta laborans, querelam marito adversus Medicos detulit, quasi illorum negligentia erga se ægritudo convalesceret. Jussu Guntranni diversis pœnis Medici interierunt ; ipsa que post deficiens mortua est. Aimoni Monachi Floriacensis.” *Recueil des Histor. des Francs et Gaules. Bouquet, tom. iii. p. 83.*

afterwards recovered ; but notwithstanding the sacrifice, the two innocent Princes died. And not the slightest hint is given of their malady having been the Small Pox, though the details of what passed in that Court are minutely related. Had Shakespeare read the following story of Fredegonde, with the addition of visions, or supernatural agency, he could have converted it into a drama, equal to that of Lady Macbeth.

“Fredegonde* was beautiful, artful, and amor-

* Erat autem Fredegundis Regina pulcra et ingeniosa nimis atque adultera. Landricus etiam erat tunc in aula Regis Hilpici, vir efficax atque strenuus quam memorata Regia diligebat multum, quia luxuriabatur cum ea. Quadam itaque die cum maturius Rex ad venacionem exercendam de villa calense in Pisiacum dirigiret reversus est in cameram palatii de scappl'o equitū. Illa faciem suam abluens aqua in ipsa camera, et Rex retro veniens, eam in nates suas fuste percussit. At illa cogitans quod Landricus esset, ait, Quare sic facis Landrice? Respiiciensque vidit quod Rex esset, et expavit vehementer. Rex non nimium tristis effectus, in venacionem perexit. Fredegundis itaque vocavit ad se Landricum, et narravit omnia quæ fecerat, dicens, Cogita quid agere debeamus, quia crastina die ad tormenta valida exhibebimur. Et ait Landricus contritu spiritu, et commotus lachrimis, dicens. Tam mala hora te viderunt oculi mei. Ignoro etiam quid agere debeamus quia opprimunt me undique angustie. At illa dixit ei, Noli timere, audi consilium meum, et faciamus hanc rem et non moriamur. Cum Rex de venacione summo vespere obtenebrante advenerit, mitemus qui eum interficiat; et precones clament, quod insidie sint Hildeberti. Illo quoque mortuo, nos cum filio meo Lothario regnabimus. Factum est autem in initio noctis

ous; she loved passionately, and was beloved by Landric, an ardent and vigorous young courtier.

One morning the King went a hunting towards a villa in the vicinity of Paris; but quickly returned to change his saddle, and entered a gallery in the Palace where the Queen accidentally was bathing her face in water. The King came behind, and, unseen, gave her a tap with his stick; on which the Queen, who was expecting her paramour, said, "How dare you, Landric?" Then looking back she perceived the King, and fell a trembling. Chilperic betrayed no violent displeasure, and proceeded to the chace.

Fredegonde, without delay, sent for Landric; she informed him of their intelligence being inadvertently disclosed, and desired him to con-

revertente Hilperico Rege de venacione, quidam pueri adulatores inebriati vino a Fredegunde missi, dum de equo descenderet pergentibus reliquis personis ad metata sua: ipsi gladiatores percusserunt regem in alvum scransaxis. At ille vociferans, emisit spiritum. Succlamaveruntque Adulatores quos Regina fraudulenter miserat dicentes, Insidie, Insidie fecerunt hoc Hildeberti Regis Austrasiorum super dominum nostrum! Tunc exercitus hoc illucque discurrens, cum nihil invenissent, reversi sunt ad propria sua." *Speculum Historiale* Fratris Vincenti ordinis prædicatorum; impressum per Johannum Metellin. A. D. 1473. lib. xxii. c. 130. In the library of the Duke of Devonshire.

sider what was to be done ; lest on the morrow they should both be exposed to the most dreadful tortures. Landric was thrown into despair, and weeping bitterly, exclaimed, “ Alas ! in a miserable hour did I first behold you ! I can think of nothing for horror ! ” The intrepid Fredegonde interrupted him, “ Fear nothing, attend to my counsel. We shall go through with this business, and shall not die. When the King comes home at dark, I will plant fit persons to make away with him ; and heralds shall proclaim, that the plot was laid by Hildebert : and when he also shall be put to death, then we shall reign in the name of my infant son Lothario.”

Accordingly, when Chilperic returned from hunting, in the dusk, some of the royal attendants, made drunk by Fredegonde, hurried out to meet him, while the rest were busy in their various duties : and as he was dismounting, hired murderers stabbed the King, who gave a loud shriek, and in a moment expired. On which, the creatures of the Queen immediately vociferated, “ Treachery ! treachery ! Hildebert of Austrasia has contrived this murder ! ” These exclamations, and the tumult which arose, soon brought to the spot a body of troops ; but, as the assassins had already disappeared, the troops soon dispersed.

History shews, that royal criminals, even Usurpers, are rarely subjected to legal, or to poetical justice. Fredegonde by the above, and by similar deeds, acquired the Regency of Soissons, and Landric was appointed Mayor of the Palace.*

The French historians certainly give no support to the supposition of M. Paulet; and it would be tedious to refute one or two additional quotations, from which he endeavours to convert Eruptions into Small Pox. In truth, he had examined the subject slightly.

Independently of the original historians and Chronicles, the Lives of the Saints form a massive portion of the records of the dark ages. Bishop Surius, Bollandus the Jesuit, his successors, and other Catholic priests, have compiled a most oppressive number of ponderous folios; in which the miracles, the sufferings, and martyrdoms of an host of Saints, are circumstantially detailed. Some historical facts, something of

* Itaque Fredegundis viro suo Hilperico ingeniose perempto, ipsa cum Lothario Rege parvulo suo et Landrico, quem Majorem domus palatii eligerunt in regno resedit. Franci quoque predictum Lotharium Regem super se in regno statuit." Specul. Historiale, lib. xxiii. c. 2.

Other authors relate the events in a different manner, and vindicate Fredegonde. For there are always zealous defenders of handsome queens, even when they murder their husbands.

possibly be gleaned out of these works. But although they were once pored over with wonder ; the disgust which they now excite, renders any minute examination of them impracticable. A perusal of a small part is all that the most patient can submit to. For most of the stories related there, are not only at variance with the sentiments and characters of men, but even contradict the laws of nature. Apparitions are common sights, prodigies are daily occurrences ; and torture, fire, and death, instead of being objects of terrour, are solicited by the heroes and heroines of these books with earnestness, and enjoyed with rapture. The innumerable miracles are equally astonishing ; for limbs distorted or fractured are instantaneously cured by being sprinkled with water ; foul and ulcerated lepers are cleansed by an old man's spittle ; eyes scooped out, are so dexterously replaced in their sockets, that vision is improved : and even the decapitated have their heads so nicely refitted, that they pray afterwards more fervently than before.

These facts are sufficiently surprising, and no medical cases were ever so well attested. For they are authenticated by mortified monks, reverend abbots, holy bishops, infallible popes, and consecrated saints. Notwithstanding which, sensible Catholics give no more credit to them,

than the most reformed Protestants. And the learned view them, as the largest accumulation of impious frauds and irreligious falsehoods, that were ever invented for the delusion of mankind.

Yet in the midst of these shameful fabrications, some lurking truths may be detected: even narrations of spurious cures of diseases are presumptive proofs that such diseases existed: and as the most shocking and hopeless maladies are those which were most frequently miraculously cured, the Small Pox would unquestionably have been among the number, had it been known.

This argument will have the more weight, when it is considered that there is perhaps no infirmity pretended to have been so often cured as blindness. In a life of St. Martin, ascribed to St. Gregory, there are accounts of near fifty blind people restored to sight by the influence of the Saint's shrine. And in many of the instances, the cause of the blindness is related; but Small Pox is never mentioned, nor any malady which can be suspected to have been Small Pox. Whereas, in later times in Europe, at least one-third of the blind were deprived of their sight by the Small Pox.

Few can now read through many of these lives of the early Saints; yet they may be consulted on

particular points by moderate labour, in consequence of the drudgery of the pious monks. For those books being considered by them as admirable productions, and essential to the salvation of future ages, they have composed ample indexes of every article, and even of every Latin word. This was an immense saving of labour to the writers of dictionaries; and Du Cange, who was well acquainted with these books, in his Glossary of modern and barbarous Latin, gives no earlier authority for the word, *variola*, than Constantinus Africanus, who wrote in the eleventh century; and it sometimes occurs in the Lives of the Saints, in the thirteenth and fourteenth centuries, when some persons rendered blind by the Small Pox were miraculously restored to sight, as shall be noticed in the proper place.

In opposition to those authors who contend, on fallacious grounds, that the Small Pox existed in the ages of antiquity, or prevailed in Europe in the sixth century; there are others who are of opinion, that it was not introduced into Europe until the end of the eleventh or the beginning of the twelfth centuries, by the returning Crusaders. This is the most prevalent notion, and has been adopted by Mead, Dimsdale, and many others. The martial deeds achieved to obtain possession of the Holy Land,

improved chivalry to perfection, inspired many amusing romances, and much delightful poetry. These were the compensations for the millions who perished in Asia, and for the leprosy which the survivors brought back. But the introduction of the Small Pox into Europe, ought not to be charged on these frantic expeditions, for it will be now shown, that this had previously been effected.

CHAP. II.

THE EARLIEST ACCOUNTS AND PROGRESS OF THE
SMALL POX IN ASIA, AND AFRICA.

IN searching for the first accounts of the Small Pox, it was proper to examine if any early traces of this disease were to be found in China, which is believed by many to have been one of the earliest inhabited countries in the world.

The primitive historical records of China are very justly discredited, in consequence of one of their Emperors having had the folly to order all their books to be burnt, with the exception, however, of those on agriculture, law, and physic. This occurred about 246 * years before the Christian æra. But the exception that was made in favour of medical books, leaves a motive for trusting in some degree, to those facts which were handed down relating to medicine.

* Histoire Générale de la Chine par Jos. A. M. de Mailla, Tom. i. Paris 1785.

The missionaries who were sent into that country by the Church of Rome, from their address and insinuation, gained access to their historical records; and they have transmitted detailed accounts of the history of the Chinese, and of their knowledge in various branches of science. According to these authorities, medicine appears to have been cultivated, and the Small Pox to have existed in China, from a very remote period.

There is a memoir upon this disease in the collection, written by the missionaries* at Pekin; the substance of which is extracted from Chinese medical books, and especially from a work published by the Imperial College of Medicine, for the instruction of the physicians of the Empire. This book is entitled, Teou-tchin-fa†, or *a Treatise from the heart on the Small Pox*: which states, that this disease was unknown in the very early ages, and did not appear till the dynasty of Tcheou, which was about 1122 years before Christ. The Chinese name for the malady is a singular one, Tai-tou, or *Venom from the Mother's breast*; and a description is given of the fever, the eruption of pustules, their increase, suppuration, flattening and crusting.

* Memoires concernant L'Histoire, les Sciences, &c. des Chinoises par les Missionnaires de Pekin. Tom. iv. p. 392.

† Traité du Coeur sur la Petite Verole.

In the same Chinese book, there is also an account of a species of inoculation discovered seven centuries previously; but according to a tradition, it had been invented in the Dynasty Song, that is about 590 years after Christ. This is a large work, completely authentic, and contains every thing that was known relative to Small Pox in that country. *

Father D'Entrecolles the Jesuit, mixes in his correspondence from China, some information respecting the Small Pox, which confirms the material parts of the above information. For he notices having read some Chinese books which mention the Small Pox as a disease of the earliest ages. He also describes a method of communicating the disease, which was occasionally used, and is called *sowing the Small Pox*; this was generally performed by planting some of the crusts up the nose. An operation which was approved of by some, but disapproved of by most authors.

He also gives an example of his own practice, in which his medical knowledge is made subservient to the great work of conversion.

A young girl had been attacked with the

* Lettres Edifiant. et Curieus. par des Missionnaires de la Compagnie de Jesus. Paris 1781. Tom. xviii. p. 351. Tom. xxi. p. 11.

Small Pox ; and the disease was so virulent, as to have baffled the skill of the Chinese physicians. When she was reduced to the last extremity, her father recollected that two children of a friend, who had become a Christian, had been cured of the Small Pox by a powder which he got from a missionary. He immediately applied to this friend, who informed Father D'Entrecolles of the melancholy case of the girl, and of her father's request to have one of his powders.

The Jesuit readily consented to give the medicine to the girl ; but insisted also upon baptising her without her parents' knowledge. And he likewise extracted from both the parents, a promise, that if he cured their daughter, he should be permitted to instruct her in the tenets of the Catholic church.

The grief of these poor people made them yield to this condition ; but the Jesuit owns, that his remedy was administered too late. This however he considered as of little moment ; and exults in saying, that " he baptized the girl at noon, and in the evening she entered into possession of the inheritance of the children of God." Thus the dying idolater was mercifully, though surreptitiously, snatched from the grasp of Satan, by the superior cunning of the Jesuit.

Several missionaries * also inform us, that the Chinese worship a goddess, who has a superintending power over the Small Pox: This is a strong confirmation of the antiquity of that malady in China, which the learned believe to have prevailed there for at least 3000 years.

The vicinity of China to Japan, and their early mutual intercourse rendered it impossible that the Small Pox should exist in the former empire, without being soon communicated to the latter. Dr. Engelbert Kempfer, was physician of a Dutch embassy to Japan in the year 1690, and found the Small Pox and Measles diffused through the country.

He has given the history of Japan from the remotest antiquity, in which all the very early transactions, like those of other nations, are fabulous; but previously to the Christian æra, the Japanese annals assume an authentic form, and are preserved as genuine registers in the archives of the empire.

In a translation which is given of one of

* History of China. Pere de Halde, vol. iv. *Histoire Generale de la Chine* par Père Jos. Anna M. de Meyriac de Mailla, Jesuite. Tom. xiii. p. 778. “ L'inoculation étoit pratiquée à la Chine long temps avant qu'elle fut connue en Europe.”

“ Ils n'en font remonter l'origine (de la petite verole) qu'à environ trois mille ans.”

these original Chronicles, it is stated in recording the reign of a King called Siomu, that "in the thirteenth year of his reign* (which corresponds with the 737th of the Christian æra) the Small Pox was very mortal in all parts of the Empire." The date of this epidemic is modern, when compared to the Chinese records; but the disease is noticed as an earthquake, or a hurricane, or any other well known incident.

In Hindostan, according to the traditions of the Bramins, the Small Pox is of immense antiquity. It has several names in the ancient Sanscrit language, and its very early existence in that country is proved by their sacred books, and by the mythology of the Hindus. There are discordant accounts in different parts of India, of the genealogy, of the history, and even of the name of the goddess who presided over the Small Pox; there are similar varieties in the Grecian mythology, for nothing is so mutable as a heathen deity. The relation of M. Sonnerat, a man of letters, who was sent by Louis XV. to India and China to collect literary information, is as follows:

* The History of Japan by Engelbert Kempfer, translated by I. G. Scheutzer, F.R.S. London, 1727.

Mariatale * was the wife of Chamadaguini, and the mother of Parapourama, who was no less a being than the great Vichenou in his eighth incarnation. Mariatale commanded the elements, which power she was to retain as long as her heart remained pure. She was one day collecting water from a pool, and forming it into a globe, according to her usual custom; when she saw reflected from the surface of the pool, the images of a group of beautiful winged sylphs, who were hovering over her head. Their delicate forms, and graceful movements, when fluttering in the air, drew too much attention; desire entered her heart, on which the water instantly lost its spherical form, dissolved in her hand, and flowed into the pool. From that moment she could never carry water without the assistance of an urn. Chamadaguini discovered by this loss of power the mental impurity of his wife; and was so violently enraged that he commanded his son instantly to smite off her head.

The mandate was obeyed, but Parapourama became so deeply afflicted with the death of his mother, that the father relenting, desired

* Voyages aux Indes Orientales et a la Chine par ordre du Roi depuis 1774. jusqu'an 1781. par. M. Sonnerat, &c. &c. &c. Paris 1781. Tom. i. p. 244.

him to rejoin the decollated head to the body, and whisper a prayer in the ear, by which she would be reanimated. The son was transported with joy; but from eager precipitation, united to the body of his mother the head of a Parichi, who had been executed for infamous deeds.

The virtues of a goddess, and the vices of a demon, were thus mingled in Mariatale, who, therefore was expelled from her home; and wherever she passed, she committed abominable cruelties. At length to pacify her, and to put a stop to her ravages, the deities, named Deverkels, assigned her the power of curing the Small Pox, and promised that she should be invoked in that distemper. But Mariatale fearing, that in consequence of her degradation, she would no longer be adored by her son, besought the Deverkels to grant her another child. They gave her Catavaragen: and the mother and son share between them the adoration of the Parias, one of the lowest casts in India. This son is the only deity to whom offerings are made of dressed meat and salt fish, which is owing to his being considered as the son of a Parias.

The goddess is the great deity of this cast, and many temples have been built to her. There is also an occasional festival in honor of her which is celebrated on no fixed day, but whenever an alarm is taken. There are persons who have

been kindly treated by Mariatale, or who are desirous of her protection, that sometimes make a vow from gratitude, or to gain her favor, to suspend themselves in the air. This is performed by a rope fixed to a high projecting beam, with two hooks which are stuck through the flesh of the votary's loins; who is then raised up twenty feet from the ground, and whirled round and round in the air. During this horrid ceremony, he is expected to preserve a cheerful countenance. For if he sheds one tear, he is expelled from his cast, and dishonoured for life.

This ceremony is disapproved, and even despised by the Bramins.

Baldæus *, a Dutch clergyman, passed some years in Hindostan and Ceylon. From the information which he collected from those Bramins whom he had opportunities of meeting; and from their sacred books, he gives a very different account of the Small Pox Goddess.

He calls her Patragali, and gives a print of her tremendous form: she had eight faces and sixteen arms, and was the daughter of a god.

* A true and exact description of the East India coast by Philip Baldæus, about the year 1664. Collection of Voyages. Churchill, vol. iii.

named Ixora, whose figure was equally extraordinary.

It happened that Ixora was oppressed by a very terrible monster, whom he durst not encounter ; but Patragali assaulted and destroyed this enemy. Then exulting in her victory, she went to communicate the tidings to her father, who being accidentally naked, escaped from modesty into a cistern. When Ixora had heard his daughter's narrative, he bestowed as a reward, some morsels of flesh, and a copious draught of blood. But perceiving that she was dissatisfied, he cut off one of his fingers, and by the wound, filled a large bason with his own blood, which he presented to Patragali. The maw of this ravenous Deity, though thus glutted with her father's blood, was not satiated : and in her fury, she took off some golden beads from a chain she wore round her neck, and dashed them at his face. Ixora exclaimed, " Basuri ! " " Oh you revengeful woman ! "

There immediately broke out on his face a great number of small pimples : on which, to pacify her, he created two beings to attend and serve her : desiring that she would henceforth reside among mortals, and require from them vows and sacrifices.

Some less important actions of Patragali are related ; and it is stated that whenever the

Small Pox occurs, it is believed to be sent by her; and all those attacked are immediately abandoned by their friends, and left to the care of a fraternity of Bramins belonging to the pagoda of Patragali.

No authority but a consistory of Bramins can pretend to decide, which of these, or what other is the true name, genealogy, and deeds of the Small Pox deity. But all accord in her extreme antiquity. Holwell* an English surgeon, who resided many years at Bengal, mentions that there are forms of worship, with poojahs or offerings instituted for this female goddess in the Attharva Veda; one of the most sacred and ancient books of the Hentoos; which according to the Bramin calculation, was promulgated three thousand three hundred years ago†. The

* An account of the manner of inoculating for the Small Pox in the East Indies, by I. Z. Holwell, F. R. S. 1767.

A professor eminently skilled in the oriental languages has enabled me to correct Holwell's orthography: who wrote Aughtorrah Bhade, instead of Attharva Veda; and Gootée ka Tagooran, instead of Guti ka Takurani: the last words are likewise erroneously translated Goddess of Spots: whereas the correct translation is Goddess of the Small Pox. This mistake has completely misled Dr. Woodville in his reasoning and conclusions respecting the Small Pox in Hindostan. Vide History of Inoculation, Introduction.

† A deduction of 1000 years is made by some modern orientalists, on this calculation.

same author also mentions, that inoculation was practised in India, from the remotest antiquity. It is in the hands of a particular tribe of Bramins ; and delegates were appointed annually from the different colleges of Bindooband, Eleabas, Benaras, &c. These travel through the different provinces, and inoculate in the spring ; and recite during the performance of the operation, the prayers appointed in the Attharva Veda, for propitiating the female divinity.

Many singular superstitions invented in remote ages, are still practised in these countries.

A physician in the service of the East India Company informed me, that when he was at Benares, a great alarm was one night raised by the appearance of a multitude of lights, moving to and fro, and waving about at a distance, in a manner which seemed almost supernatural. This physician, being determined to find out the cause, ran out of the town with one of his friends towards the place where these nocturnal lights appeared, but before he reached it, the phantoms had thrown away their fires and vanished ; and the field was strewed with small wisps of half-burned straw. On making enquiry he learnt, that this was a mystic rite, performed by the women of the village to disperse the contagion of the Small Pox, and to appease the wrath of the superintending deity.

There are many monstrous idols of this malignant power throughout India : and among a fine collection of original Hindoo drawings brought to this country, which illustrate the mythology and manners of the East ; there is one whose subject is, a religious dramatic representation of the actions of the Small Pox Goddess *. This evil spirit stands with two uplifted crooked daggers, threatening to strike on the right and left. Before her are a band of the executors of her vengeance. Two of them wear red grinning masks, carry black shields, and brandish naked scimitars. White lines, like rays, issue from the bodies of the others, to indicate infection. On the right, there is a group of men with spotted bodies, inflicted with the malady : bells are hung at their cinctures, and a few of them wave in their hands, black feathers. They are preceded by musicians with drums, who are supplicating the pity of the furious deity.

Behind the Goddess on the right, there advances a bevy of smiling young women, who are carrying gracefully on their heads, baskets with thanksgiving-offerings, in gratitude for their lives and their beauty having been spared.

* This valuable and interesting collection of Chinese, Hindoo, and Persian drawings is in the library of Mrs. Bliss of Kensington. Vide frontispiece. *

There is, besides, a little boy with a bell at his girdle, who seems to be conveying something from the right arm of the Goddess. This action may possibly be emblematic of inoculation.

In a country, where every thought, word, and deed, are mere repetitions of those of their progenitors, a composition, like this, bears the stamp of great antiquity : nothing similar has been struck out from a very remote period. One example of the apathy which has long entranced the East, shall be given.

It was in the fifteenth century, that the Portuguese navigators doubled the Cape of Good Hope, and reached the coast of Malabar. The chief motive assigned for sailing to these distant regions, was to bestow upon the idolatrous natives, the blessings of Christianity ; for which benevolent and religious cause, their proceedings were sanctioned by a papal bull. But the stirring up of sanguinary wars, and the introduction of a new and loathsome disease into Asia, were the first effects of European intrusion. This disease spread widely, and produced inexpressible misery. But as it broke out in an age comparatively modern ; no symbolic rites, such as were anciently instituted for the Small Pox, have been established for this venom ; and no image, adorned with appropriate types, has been erected in any

Chinese or Hindoo temple: for invention has long abandoned these his primitive abodes.

In fine, the mythology, the religious institutions, the sacred and historical records, the medical works, and uniform tradition in China and Hindostan all accord in the Small Pox having existed in these countries from a very early period. It becomes then requisite to examine how it happened, that this infection did not extend into Persia, and thence into Greece, long before the age of Hippocrates.

The terror which the Small Pox inspired, appears to have early excited strong measures to escape from the infection, and to impede its progress. The religious rites which were established, are decisive proofs of the dread in which it was held: for where human power is found inadequate to encounter a calamity, resort is had to Heaven.

Travellers have been struck with the dreadful alarm which the Small Pox creates in the countries bordering upon China and India, even in modern times; when it might have been expected that these nations should have become familiarized with the disease.

Father D'Entrecolles * writes, that the Small

* Lettres Edif. et Curieuses. tom. xxi. à Peking, 11 Mai, 1726.

Pox is considered in Tartary, as a plague ; and whoever is attacked with it, is immediately abandoned by all the world.

Captain Turner, ambassador to the Tishoo Lama*, has declared, that in Thibet all who contract the Small Pox, are not only left to chance, but that every avenue to the place where infection exists is barred, both against the admission of strangers, and the flight of those within. And when the Small Pox broke out in the capital, a still more vigorous measure was had recourse to. The Tishoo Lama left the city, which was abandoned and remained without inhabitants for three years ; when it was supposed to be cleared of infection.

Mr. Saunders†, surgeon to that embassy, scrutinised the subject with medical accuracy. For he remarked, that the natives were struck with so much consternation by the Small Pox, that instead of paying any attention to the sick, they only thought how they were to avoid contagion themselves. All communication with the diseased was strictly prohibited, even at the risk of their being starved ; and the house or village in which they dwelt was afterwards razed. In consequence of this complete interruption

* An account of an embassy to Thibet, by Captain S. Turner. London, 1800. p. 219.

† P. 415.

of intercourse, he observed, “ that the Small Pox
 “ was seldom to be met with, and when it oc-
 “ curred, its progress was always checked by
 “ the vigilance and terror of the natives.”

Since Mr. Saunders noticed, that this disease was rare in the present times, it probably had been much rarer in the early ages of the world. For the mutual intercourse and aggregation of mankind augment as they recede from barbarism; and infectious diseases would naturally be less frequently epidemic, and less destructive among hunters and shepherds, than among men in a more advanced state of society.

The Small Pox was in fact so rare in the 16th and 17th centuries, on the western coast of Hindostan, and in the islands of Ceylon and Java, that some of the Portuguese navigators believed that no such disease had ever existed there; and the Dutch navigators were ignorantly accused of having transported this disease to countries *, in which prayers and offerings had been instituted, to deprecate its fury,

* *Navigatio ac Itinerarium I. Hugon. cap. 34. Hagæ, 1599. Ephemerid. de l'Acad. des Curieux. Dec. 1. an. 9. 10. 1678 and 1679. Histoire de la Mission Dannoise, dans les Indes Orientales, tom. i. p. 42. Traité des Maladies des Femmes, tom. iv. p. 177.*

at a period when Holland was an uninhabited
marsh

The dread of the Small Pox, and the strong
measures adopted in the East to controul it, may
be considered as causes which contributed to pre-
vent the infection from extending westward. But,
the principal cause was the peculiar
situation of the regions through which this infec-
tion was diffused, separated from the rest of the
world by the desert and by the ocean. Yet neither
the mountains formed by nature, nor any de-
fence established by man, have preserved any
country from foreign hostile intrusion. Whether
the traditions of Bacchus and Sesostris into
India be true or fabulous, are themes for antiqua-
ries: but the invasions of India by Darius the son
of Hystaspes, and by Alexander, are certified by
history: and the Small Pox does not appear to
have been carried back into Persia by either.
This was a calamity more likely to have been ef-
fected by an irruption, than by an invasion: but
the industrious Chinese, and the unambitious East
Indians never thought of quitting their homes,
to break into the territories of their neighbours.

The rapacious invaders who went from Persia,
would of course be attacked by the diseases
which prevailed in the countries they laid waste:
but the numbers which perished, the time which
was spent in so distant a warfare, and the ex-

tent of the deserts which were re-crossed, appear to have secured their native country from being contaminated by the few survivors of those expeditions.

Scylax, who commanded the army of Darius is said by Herodotus, to have spent two years and a half in his progress down the Indus to the Arabian gulf. The handful of men who escaped back to Persia, would probably be cleared by that time, of all contagion from Small Pox, even if that malady had ever infected their camp.

Alexander the Great, after crossing the Indus proceeded eastward to the banks of the Hyphasis, the modern Bryah. He was there stopt by a mutiny of the army, and forced reluctantly to return to the Hydaspes.

There a fleet was equipped with which he resolved to proceed down the Indus to the ocean. Such a leader, with thoroughly experienced officers, would certainly take every precaution in their power, to preserve the health of the troops, and to hinder infectious maladies from spreading through the army; and nine months were exhausted before they reached, with diminished forces, the mouth of the river. The army was then divided; one portion proceeded by sea under the conduct of Nearchus; and Alexander marched to the west with the re-

mainder, through a desert and almost uninhabited country.

10 Arian * mentions, that the sufferings of the army were dreadful, that the beasts of burden perished, and the sick were necessarily abandoned. Plutarch declares †, that from bad diet, excessive heat, and violent diseases, three fourths of the army perished. Quintus Curtius asserts, that when the army were encamped near the mouth of the Indus, “a scab ‡
“ attacked the bodies of the soldiers, and spread
“ by contagion.” He dwells with eloquence on the miseries which the army endured from famine, diseases, and pestilences, in a march of sixty days, through a horrid country, part of which resembled a wilderness. As no food was to be found even for the beasts of burden, they all perished; the sick, unable to proceed, in spite of their entreaties, were left to starve; while the remaining troops hurried forward to reach a cultivated country. Certainly there is little likelihood that those afflicted with the Small Pox could survive such hardships.

* Arian. Hist. Ind. cap. 25.

† Plutarch. The Life of Alexander.

‡ Quint. Curt. cap. 10. “Quippe scabies corpora invasit, et contagium morbi etiam in alios vulgatum est.” It is possible that this was the Small Pox ill described.

Nearchus the admiral, who conducted the maritime expedition, was too experienced an officer to suffer any persons to embark, who were known to be contaminated with an infectious disease. But if from inadvertence this should have happened, as the coasting voyage lasted seven months, there was ample time to get rid of the contagion.

When all the circumstances of that frantic enterprise are considered, it will not excite wonder, that the wreck of the Macedonian army did not consummate their misfortunes, by bringing the Small Pox into Persia.

But as the valuable productions, and the curious manufactures of China and India were early coveted and transported to the more western nations, it is more surprising that the infection was not communicated by commercial intercourse. This certainly would have occurred very early if those countries had not been separated in so remarkable a manner from the rest of the habitable world.

Commerce with those nations by land, was only practicable by means of the camel, whose powers of enduring heat and thirst, without drinking for ten days, enabled the merchants to convey their goods across the sandy deserts. But we may safely conjecture, that no person

known to be infected with Small Pox, would be suffered to join a caravan. And if from accident, that ever occurred, there can be little doubt, that the infected would be abandoned to their destiny.

The horror entertained of the Small Pox would also excite attention not to admit the infected into ships, which in the early ages were small in size, requiring but few mariners to navigate them; while the tediousness of the coasting voyage gave ample time for the extinction of infection.

The ships of King Solomon were three years in accomplishing their voyage to Tarshish and Ophir, which some have believed to have been ports on the coast of Hindostan; though it appears to be established by late authors*, that these towns were situated on the southern coast of Africa.

The Egyptians after the destruction of Tyre, carried on commerce with India through the Red Sea. And as navigation was then in its infancy, and the mariners' compass unknown,

* An Historical Disquisition concerning Ancient India, sect. i. by Wm. Robertson, D.D. Travels to discover the Source of the Nile, vol. i. cap. 4. by J. Bruce, F.R.S.

the merchants “sailed * in vessels of small burden, which crept timidly along the coast ;” so tedious a route would clear the crews of Small Pox.

In the middle of the first century, this voyage was somewhat shortened ; and, according to Pliny †, India was brought nearer to Europe by gain. For a mariner named Hyppalus, ventured without a compass, trusting to the western monsoon, to stretch from the mouth of the Arabian Gulph, in a straight line eastward, through the Erithrean sea to Musiris, a port on the Malabar coast of India. The voyage even by this shorter route required a year ; which was sufficient for the extinction of variolous contagion.

If the Persians had engaged early in maritime commerce, from their vicinity to India, they would probably have soon brought into their country the Small Pox. But the ancient historians declare, that the Persians entertained an insuperable superstitious aversion to the sea ; and Robertson asserts, that “ no commercial ‡

* Historical Disquisition by Dr. Robertson.

† Plin. Nat. Hist. lib. vi. cap. 23. “ Lucroque India admota est.”

‡ Historical Disquisition, &c. by Dr. Robertson, vide Sect. i. and note x.

“ intercourse seems ever to have been carried
“ on by sea between Persia and India.”

The spirit of commerce, when once excited, is however active and persevering, and the European demand for the muslins, the silks, the spices, the pearls, and the diamonds of the east, perpetually augmented. To facilitate their transportation, a busy coasting trade spread on both sides of the Peninsula of Hindostan, to the islands eastward *, to the kingdom of Siam, and even to China. The luxurious productions of these distant countries, were thus brought to the most convenient harbours to be conveyed to Alexandria, and diffused through the Roman Empire.

This lucrative trade was so tempting, that towards the beginning of the sixth century, the Persians began to surmount their aversion to maritime affairs, and their harbours were filled with trading vessels. They soon monopolized the silk trade ; for their vicinity to India gave them ~~great~~ advantages over the Egyptian merchants, but it also augmented the danger of transporting the variolous contagion. Indeed, whatever attention might have been paid by the commanders of these merchant vessels, it was impossible that

* Historical Disquisition, &c. by Dr. Robertson.

this calamity should have been avoided much longer ; and as ships coming from India, both in their passage to the Persian Gulph, and to the Red Sea, frequently touched at the Arabian ports, that country was peculiarly exposed, and there accordingly it was first observed.

CHAP. III.

THE SMALL POX APPEARS IN ARABIA, AND FOLLOWS THE
TRACK OF THE SARACENS.

THE war of the Elephant was a religious war of great celebrity in Arabia : but the truth was so obscured by Oriental fictions, as not to have been developed even by the penetration of Gibbon ; and as the incidents were intimately connected with the history of the Small Pox, it is necessary briefly to relate them.

Abrahah *, an Abyssinian prince and a Christian was Viceroy of Yaman. He built a magnificent church at Sanaa, with the pious design of attracting the Arabian pilgrims from the idolatrous worship at Caaba, and of inducing them to pay their devotions to the true God ; and so convert them to Christianity.

In the year 568, the inhabitants of Mecca

* Bibliot. Orient. D'Herbelot. Art. Abrahah. La Vie de Mahomet par Gagneir. The Life of Mahomet, by H. Prideaux. Ancient Universal History, vol. ix. The History of the Decline and Fall of the Roman Empire, by Edw. Gibbon, and a crowd of Arabian authors, who relate the War of the Elephant with slight variations.

were alarmed by finding their ancient temple neglected; and some of them secretly entered the church of Sanaa at night, and defiled the walls, and the altar, by smearing them with filth. Abrahah was so incensed at the profanation, that he swore he would raze the Caaba to the ground; and having soon assembled a large army, he marched directly to Mecca, mounted upon a huge elephant. Abdol Motalleb the grandfather of Mahomet presided in Mecca, and according to the Arabian historians, was aided by Heaven. For when Abrahah attempted to enter the city, his elephant knelt down, then turned round, and could not be forced to advance; while he was disconcerted by this incident, a large flock of supernatural birds, named Abahil, came flying from the sea. The plumage of some of those birds was black, and their bills were white; others had green feathers with yellow bills. All of them were armed, each carrying a small stone the size of a pea in its bill, and two in its talons. These stones were inscribed with the name of the person they were intended to strike, and were thrown down at once upon the army. The stones pierced through the helmets and bodies of the Abyssinian soldiers: none escaped, except Abrahah, who fled to Ethiopia. He there related the catastrophe of the army to Pagjaschi, Emperor of Abys-

sinia, and was desired by him to describe the form and appearance of these unknown birds. On which he pointed up to one, which had pursued him during his flight, and which still hovered over his head; at that instant the bird launched a stone at him, and laid him dead at the Emperor's feet.

According to some Arabian writers, Abrahah died of a shocking pestilence, by which his limbs putrified and rotted off.

Gibbon * calls Sale, the translator of the Koran, half a Mussulman, because he remarked that something of a very extraordinary nature must have occurred at the Siege of Mecca. Yet although my religious principles should also be suspected, I cannot help agreeing with him; for the miracle was proclaimed soon after by Mahomet himself, during the life-time of persons who might have been present, and to whom an appeal is made in the following lofty chapter of the Koran.

“ THE ELEPHANT REVEALED AT MECCA. †

“ In the name of the most merciful God.”

“ Hast thou not seen how thy Lord dealt with

* Decline and Fall of the Roman Empire, vol. ix. note on page 254.

† The Koran by Sale.

“ the riders of the elephants? Did he not make
“ their treacherous design an occasion of
“ drawing them into error; and send against
“ them flocks of birds, which cast down upon
“ them stones of baked clay, and destroyed them
“ like corn trodden down by beasts?”

The events of this war were considered so marvellous, that a new epoch was founded; and the era of the War of the Elephant was employed by the Arabians, until the Caliph Omar changed it for the Hegyra.

It can hardly be supposed, that these incidents, recorded by a number of early Arabian writers, corroborated by so remarkable a consequence, and introduced by their prophet into his sacred book, should have been altogether a baseless fabrick. Historical fables have usually some foundation in truth, which is manifested on this occasion by two Arabian authors.

Doctor John James Reiske, of Leyden, was well versed in Arabian antiquities, and the translator of the Moslem Annals of Abulpheda. He also wrote a Latin dissertation, containing miscellaneous medical observations, extracted from Arabian relicks. There is a passage there respecting the origin of Small Pox and Measles, which shall be translated.

“ Dr. Friend has conjectured * well in his His-
 “ tory of Medicine, that the Small Pox was first
 “ brought into Egypt during the Caliphat of
 “ Omar about the year of Christ 640, by the
 “ Arabians, who had been infected by some
 “ Eastern or remote nation, and the disease was
 “ thence propagated through Europe. But I
 “ have accidentally discovered in a book, which
 “ in other respects is of no value, both who first
 “ carried the Small Pox into Arabia, and the
 “ time when that occurred. For, in turning over
 “ the Arabian manuscript which is inscribed
 “ No. 53, in the Leyden library, I found, by
 “ chance, the following words. ‘ In this year

* Extractum ex dissertatione inaugurali exhibente Miscel-
 laneas aliquot Observationes Medicas ex Arabum monumentis.
 Auctore Joanne Jacobo Reiske. Lugd. Batavor. 1746. p. 9.
 “ Observatio I. Recte conjecit Jo. Friend in Historia Medicinæ,
 “ ubi agit de Variolis, p. 305. Ed. Leid. Arabes, ut variolas in-
 “ tulerunt primum in Ægyptum sub Omaro, id est circa An.
 “ Chr. 640, unde porro per Europam propagatæ sunt, sic ipsos
 “ antea ab Orientalibus aut remotioribus aliis populis infectos
 “ fuisse. Qui autem variolas primi et quando invexerint in Ara-
 “ biam, inveni in libro cætera vili, ubi minime quæsieram. Vo-
 “ lutans aliquando codicem MS. Arabicam.

“ No. 53, Bibliotheca Leidensæ, incido casu in hæc verba.

اول ما رايت الحصبة والنوا صل والكاب في
 ارض المرب في ذلن العام وتل كان بعض ذلن
 في بني اسرائيل ولم تدخل ارض المرب الا
 حينذ واول ما طهر من مبر الشجر كالحرمل
 والكنط وما اشبهها في ذلن العام *

“ at length, the Small Pox, the Measles, the
 “ diseases named Nawasal and Kynanthropia,
 “ or Ol Kalab first appeared in the land of
 “ Arabia. Some of those distempers had occur-
 “ red before to the Israelites, but never had at-
 “ tacked Arabia till then. In this year also
 “ there first appeared certain trees, as the
 “ Sylvan rue and the Colocynth.’

“ The Ethiopians therefore, at this time, carried
 “ the Small Pox into Arabia, who in the days of
 “ Hippocrates carried the Plague into Europe.
 “ The year meant is that in which the Abys-
 “ sinians, having ejected the royal family of the
 “ Homerites, and got possession of their king-
 “ dom, invaded Mecca: they were desirous of
 “ subduing the remaining part of Arabia, and of
 “ establishing the Christian faith, which they
 “ professed, even into Hagar: with this inten-
 “ tion they endeavoured to overturn the great

“ ‘ Hoc demum anno comparuerunt primum in terris Arabum
 “ Variolæ et Morbilli, et on Nawassel et Kynanthropia (seu ol
 “ Kalab;) quorum quidam aliqua fuerant jam antea inter
 “ Israëlitas, non tamen Arabum terras invaserunt nisi tum demum.
 “ Primum arbores Sylvestres, ut recta Sylvestris (ol Harmal) et
 “ Colocynthis (ol Hanthal).’ Ergo Æthiopes qui olim Hip-
 “ pocratis tempore gravem Græciæ pestem intulerunt, hoc anno
 “ Arabiæ variolas intulerunt. Annus autem quem notat est ille,
 “ quo Habassini regno Homeritico potiti ejecta regum Homeri-
 “ tarum prosapia, reliquam quoque subigere tentantes Arabiam,
 “ et Christianam fidem quam ipsi profitebantur etiam in Hagar
 “ stabilire invaserunt. Mekkam, ea mente ut Caabam, magnum

“ temple of Caaba, the seat of Arabian Paganism :
 “ but they were repulsed and grievously afflicted
 “ by those divine and prodigious birds which are
 “ mentioned in Surata ; the Koran, c. v. and in
 “ the Commentaries upon it.

“ illud templum sedemque paganismi Arabici everterunt : sed a
 “ divinis illis prodigiosis avibus, de quibus vide Surata. Corani,
 “ c. v. et ibi commentatores, debellati et gravissime afflicti
 “ fuerunt.

“ Is idem annus nascentem vidit Mohammedem. Ex quo
 “ efficitur eum annum fuisse annum post Christum natum 572.

“ Verba isthæc pauca sunt, sed notatæ digna. Posteriorum
 “ eorum partem expendant Botanici. Quid sint *النواضل*
 “ on Nawasel, non invenio notatum in Lexico Gotic. Sed ex
 “ vi verbi Nasali concludo exanthematum genus esse, forte
 “ apthas, forte etiam et id potius febrem scarlatinam purpuram
 “ aut rubeolos. (Germani . . . appellant.)

“ Ol Kalab est rabies canina, non illa Europea, sed ista Ara-
 “ bica qua in canes vertuntur qui sic insaniunt : stato quodam
 “ anno tempore ululant latrantque canum instar, deinde sua
 “ sponte ad se rediunt, de quo morbo latius aliquando in libello,
 “ si edere licet de Arabum medicina. Simile quid nostri quoque
 “ scriptores Græci atque Latini perhibent in Lycanthropis.

“ Specificum variolarum antidotum hactenus non reperi apud
 “ medicos Arabicos, ut quos non legi, blandior tamen mihi esse
 “ illa fore ut inde aliquando aut ipse ego eruam, aut alius aliquis.

“ Liber autem unde hanc descripsi observationem est compen-
 “ dium libri Massudi qui *مروج الذهب* seu *penta aurea* inscribitur
 “ ab aliquo Schatibense confectum id est deinde e Xativa, urbi
 “ Hispana, non ut male in Catalogo appellatur, Schuteibio.
 “ Ille autem Massudi auctor etiam nostris hominibus non incog-
 “ nitus ut habeatur pro Livio Arabico, et fama maxima
 “ polleat : re tamen ipsa deprehendi quod Berossus potius aliquis
 “ Arabicus sit appellandus, et inter maximos impostores eosque
 “ primos atque ineptissimos collocandus.”

“ In that same year Mahomet was born : and
“ consequently it was according to the Christian
“ era, the year 572.” *

Part of the quotation from Massudi, is for the consideration of Botanists ; but Dr. Reiske gives an explanation of the words Nawasal and Kynanthropia. He also remarks, that though this Author is held in great repute, yet, that in fact, he was an Arabian Fabulist, and a weak impostor.

Notwithstanding this unfavorable character, Dr. Reiske seems to have credited his testimony as to the rise of Small Pox and Measles, and it is strongly supported by another evidence.

When Mr. Bruce of Kinnaird was at Massuah in the Red Sea, he had the opportunity of seeing the Abyssinian Annals and other historical works of that country. He quotes a manuscript of the siege of Mecca, by El Hameesy, and this author accords with the Arabian writers in the more remarkable incidents of the war of the Elephant ; and particularly in the destruction of the Arabian army by miraculous birds ; which he suspected was a miracle raised by the devil ; and his conclusion is † “ *That it was at this*

* But according to Gibbon whose chronology is here followed, A. D. 569.

† Travels to discover the Source of the Nile, by J. Bruce of Kinnaird, vol. i. p. 514.

“time that the Small Pox and Measles broke out in Arabia, and almost totally destroyed the army of Abrahah.” Here is a second direct and independent evidence of this fact, added to many circumstantial proofs. For a crowd of historians agree in the invasion by Abrahah, and of the destruction of his army before Mecca, though there were only a handful of frightened citizens to oppose them.

But a contagious malady has frustrated many a military expedition, and no disease was more likely to have this effect, than those mentioned by Massudi and El Hameesy. For the Small Pox and Measles would make frightful havoc among troops who were all susceptible of the contagion.

The two species of mystical black and green birds, with white and yellow bills, who dropt down stones, the size of peas, that destroyed an army ; and of the pestilential disease which rotted the limbs of Abrahah, therefore admit of an easy explanation. The whole may be considered either as an Eastern allegory of the origin of the Small Pox and Measles in Arabia : or, as I rather suspect, a parable invented by Mahomet, to excite veneration for the city in which he was born, and to augment that which had been long paid to the Caaba. The dark typical phrases used in the Koran secured him

against a charge of falsehood from those who knew the facts : yet intimated that the city and temple had been preserved from Christian pollution by a miracle. This event occurred two months before the birth of the prophet, who in assuming, and maintaining his divine mission, employed a multitude of artifices : yet he did not venture expressly to attribute this miracle to his embryo agency with heaven. But the Mahometan commentators and historians, from respect to the Koran have dwelt upon the prodigy, and suppressed all mention of the diseases, until the truth was buried in the types.

And even in the present times, some persons may deem it mysterious, that two distempers should have arisen and destroyed an army of Christians, who were striving to pull down a Pagan temple, yet have spared the Impostor.

It was undoubtedly a singular triple coincidence, that the Small Pox, the Measles, and Mahomet, should all spring up in the same year in Arabia, for the disturbance of the world. But the army of Abrahah, the victims of these contagions, were avenged, though without tasting vengeance, by contaminating their enemies. And it may easily be imagined from the subtle and deadly nature of these infections, what destruction they must have occasioned, and how rapidly they would extend.

This new cohort of fevers was soon observed by physicians : for Rhases* informs us, that a treatise was written on the Small Pox by Ahron of Alexandria ; and he has even handed down some fragments of the work. This Ahron, according to Abulpharagius,† flourished at Alexandria during the life of Mahomet, and near the period of his assuming the character of an apostle.

Alexandria is near a thousand miles distant from Mecca, but the history of the times accounts for the infections being carried there in so short a period.

At the beginning of the seventh century Chosroes, a Persian tyrant, invaded the Roman Empire, ‡ with an immense host. He stormed the city of Jerusalem, massacred ninety thousand Christians, and sent into Persia the true

* Lib. xviii. cap. i. Continent. Rhasis. Imp. Brix. 1484.

† “ Fertur obiisse Harathum sub initium Islamismi,
“ (A. D. 609) ne certo constare illam religionem amplexam
“ esse. ”

“ Hoc tempore inclaruit Ahron Sacerdos Alexandrinus :
“ Syntagma ipsius in arte medica apud nos Syriacè reperitur,
“ triginta constans tractatibus, quibus duos alios additur
“ Sergius.”

Dynast. Abulphar. Pocock. Dyn. viii. p. 99.

‡ The Decline and Fall of the Roman Empire, by Ed. Gibbon, vol. viii. c. 46.

Cross. He next overran the whole of Egypt, attended by a swarm of Jews and Arabs : and certainly, if the Small Pox and Measles had not been conveyed to Alexandria, that emporium of trade, previously by means of commerce, it must have been done by this terrible expedition.

Chosroes, who had so impiously insulted the Christian faith, shewed likewise the utmost contempt for a proposal made to him by Mahomet, to embrace his religion. The Impostor being incensed at the indignity with which he was treated, prophesied the ruin of the monarch. This was accomplished, not many years afterwards, by the arms of Heraclius, and the treachery of his subjects. And the haughty Chosroes, after having been elevated by victories to the summit of power, and enjoying all that Oriental magnificence could lavish, was doomed to endure the last extreme of human misery. He was insulted, tortured, and murdered by his son.

The Small Pox and Measles certainly burst forth among the Arabs, at a period most fatally favourable for their dissemination. For in the year 622, Mahomet began to collect the wandering tribes, whom he led forth inflamed with fanatic fury, and contaminated with disease, against the surrounding nations. The numbers

killed by the Arabian scimitars are usually exaggerated, to adorn their victories; but the greater multitudes who silently perished by diseases, are rarely noticed.

After the death of Mahomet, the enthusiasm which he had kindled continued to burn, and his successors, in a few years, conquered Persia and Syria, and spread the Small Pox and Measles through these extensive countries. In the year 638 Amrou, the lieutenant of the Caliph Omar, invaded Egypt, quickly overran the southern provinces, and in two years captured Alexandria.

Although this school of philosophy had long been on the decline, yet, in the retrograde state of literature, its occupation by the Saracens was a mournful event. But the calamity has been heightened by a passage in the dynasties of Abulpharagius. This author mentions, * that after Alexandria was captured, John, surnamed the

* Historia Compend. Dynast. Gregor. Abul-pharag. Latine vers. ab Edward Pocockio.

“ Quod ad libros quorum mentionem fecisti, si in illis contineatur quod cum libro Dei conveniat, in libro Dei est quod sufficiat absque illo: quod si in illis fuerit quod libro Dei repugnet, neutiquam est eo opus; Jube igitur e medio tolli. Jussit ergo Amrus Ebo’las dispergi eos per balneas Alexandriæ, atque illis califaciendis comburi: ita spatio semestri consumpti sunt. Audi quid factum fuerit et mirare.”

Grammarians, taking advantage of the attention paid to him by Amrou, solicited the possession of the famous library, conceiving it was held in no estimation by the Arabians. The consent of the Caliph Omar was asked, who sent an order, “that if the contents of the library accorded with the Koran, that book of God was sufficient; but if they are repugnant to the book of God, we have still less occasion for them; order them therefore to be destroyed. Amrou accordingly directed that the volumes should be distributed to heat the baths of Alexandria, and in the space of six months they were all destroyed. Hear what was done and wonder!”

This conflagration of the library has occasioned among scholars much superfluous lamentation; and abundance of undeserved execrations have been poured upon the Caliph Omar. But the discerning Gibbon * considers the whole as an idle tale; for there are two † respectable Egyptian annalists of an earlier date, who were Christians, and many Mahometan writers, all of whom are silent on the above transaction. Indeed the fact is contradictory to the conduct

* Vide Decline and Fall of the Roman Empire, by Ed. Gibbon, vol. ix. page 441.

† Eutychius and Elmacin; Abulfeda, Murtadi, &c. quoted by Gibbon.

of the founder of this new faith. For Mahomet was an admirer of the science of medicine, and thought himself skilled in it. There is in the Koran a sort of essay on the medical qualities of milk; which he believed to be not only a wholesome beverage, but also a powerful remedy in many diseases. He is also said * to have written medical maxims, one of which shall be given. “There is no disease for which there is not a remedy, except the greatest of all, death.” This is a style of instruction suitable to a great prophet, but for practical purposes the medical profession usually prefer the aphorisms of Kaaw Boerhaave. However, to destroy books was certainly no part of the Mahometan creed, and the orthodox † of that religion were so far from entertaining an antipathy to literature, that their casuists have declared, “that the books of the Jews and the Christians should never be committed to the flames; and that the works of profane science, as historians, poets, physicians, and philosophers, may be lawfully applied to the use of the faithful.” They accordingly made good use of them, and the Mussulmen authors are very numerous. Even John the

* La Vie de Mahomet par Gagnier. tom. ii. p. 408.

† The Decline and Fall of the Roman Empire, by Ed. Gibbon, vol. ix. p. 440.

Grammarian was a voluminous writer : he was admired and patronised by Amrou, the person who is said to have executed the order of Omar.

At all events there is no reason to believe that the transactions at Alexandria were particularly injurious to the science of medicine. The works of Ahron were undoubtedly preserved : but it appears from Abulpharagius, that Paul * of Ægina practised medicine there at this period ; and this author, in the preface to his *Enchiridion*, asserts, that “ he † has left out no disease as far as was possible,” yet he never mentions the Small Pox or Measles. This omission is rather surprising, and at first sight seems contradictory to the account already given of Ahron having published an essay on Small Pox, in the same city, during the life of Mahomet. Attention to the following particulars may, however, explain naturally this difficulty.

Paul was not like Ahron, a native of Alexandria, but a Greek from the island of Ægina :

* “ E medicis autem qui hoc tempore floruerunt, fuit Paulus “ Egineta, medicus suo tempore celebris, &c.” *Dynast. Gregori Abul-pharag.* Pocockio, page 114.

† “ Nam post Galenum et Juniores etiam Galeno fuerunt præcipua ex omnibus delegi morbo nullo, quantum id fieri potuit “ prætergresso.” *Medic. totius Enchiridion Pauli Æginet. Præf.*

he was a great traveller ; and may have published his *Enchiridion* before the works of Ahron had appeared. This is strongly confirmed by the decisive testimony of Hali Abbas* ; who, in his enumeration of distinguished medical writers, ranks Paul as the last of the ancients, and Ahron as the first of the moderns. These expressions being applied to cotemporaries were not understood, even by the learned Dr. Friend†, from not adverting to the religion of Hali ; who being a Mahometan, made the epoch of the Hegyra the boundary between the ancients and moderns.

The *Enchiridion*, having therefore been written before the Hegyra, or 622 of the Christian æra, may have been published at Rome, or Constantinople, or at least previous to the time when Paul established himself at Alexandria : for it is not until after the capture of that city by Amrou, in the year 638, that he is mentioned by the author of the *Dynasties*.

It might even be judged from internal evidence, that the *Enchiridion* was not the produc-

* Liber Regalis Hali Abbas ex Arab. in Latin. reduct. Stephan.

† “ Qui (Ahron) ideo inter recentes credo ab eo (Hali) ponitur, quod Syriacè scripserit.” *Hist. Medicin.* Joan Friend, vol. i.

tion of a veteran in physic : for it is a mere compendium from the Greek and Latin authors, and chiefly extracted from Galen and Oribasius: and as not a syllable is mentioned of any Arabian author, it may be concluded that at the time he wrote, he was unacquainted both with them and with the Small Pox.*

To follow the progress of the Small Pox is to proceed with the history of the Arabs, who in the space of thirty years subdued Syria, Egypt, and Persia. And as these conquerors, in their military expeditions, moved in great bodies, and established themselves, with their plural wives, children, and slaves, in the subjected countries ; they disseminated the Small Pox and Measles wherever they went. But the love of conquest augments with enjoyment. The Saracens, unsatiated with ravaging the most charming provinces of Asia, were inflamed with the desire of possessing Europe also.

* Dr. Friend justly concludes from the omission of the Small Pox by * Paul, that this disease was unknown at that time in Greece : but Woodville † extends this to an assertion that it was also unknown at Alexandria, after the capture of the city by Amrou, and after an Essay had been written upon the disease by Ahron. Woodville seems to have been unacquainted with Hali Abbas, and many of the Arabian medical writers.

* *Johannis Friend de Purgantibus.*

† *Introduction to History of Inoculation, p. 21. by W. Woodville.*

Constantinople guarded the northern barrier, whose inhabitants retained the name of Romans, though they durst not encamp without their walls. But by surpassing the Arabians in art, they burnt their fleet with Greek fire, and compelled them to raise the siege. Thus the Mahometan Empire was bounded by the Hellespont, and that entrance for the Small Pox into Europe was barred up. And this was done so effectually, that it appears by Nonus,* a physician who lived at Constantinople in the middle of the 10th Century, that the Small Pox and Measles were unknown, even then.

In spite of this check, the Arabians carried their arms eastward; the Small Pox accompanied the Koran, and attacked some of the Saracen monarchs. For thre† of the early

* Noni Med. Clar. &c. per Hierum Mart. Argent. 1568.

† (Caliph Jesid) "Fuit fuscus, valde formosus, vertice magno, in facie sua habens varorum vestigia."

He died in the year 683. Historia Saracen. Elmacin. Erpin. p. 54.

(Caliph Walid) "Erat autem valde procerus, fuscus, pulcherrimus, et in facie varorum habens vestigia."

He died A. D. 714. Elmacin. p. 73.

Caliph Mutamidus Alalla "in fronte varorum habens vestigia." Died in 802. Elmacin. p. 175.

Caliph Mahad "in oculo suo dextro habens albuginem." Died in 785. Elmacin.

caliphs were pitted with Small Pox, *two had a white spot on each of their eyes*, probably from the same cause, and one* fell a victim to this disease.

It also will afterwards be shewn that many Arabian medical authors in the periods subsequent to the Hegyra, wrote at length upon the Small Pox and Measles, and that the utmost attention was paid to these destructive maladies.

Medical learning indeed had been cultivated in Persia, long before the Arabian conquest : for about the year 272.† Sapor, King of Persia, the conqueror of the emperor Valerian, obtained in marriage a daughter of Aurelian. When this Princess proceeded from Rome to Persia, her father appointed some Greek physicians to attend her, who diffused the principles of Hippocrates through the East. Nisabar, the capital of Chorassan, was built by this queen: it became her favourite residence, and many celebrated physicians afterwards arose in that country. In later times when Persia was overrun by the

Caliph Watic “in oculo dextro maculam habens albam.”
Died 845. Elmacin. p. 146.

* “ Porro anno 136. Dul Hajiz mortuus est variolis Al
“ Saffahus.” Abul-pharag. Dyn. Pocock. p. 139 A. D. 750.

† Abul-pharag. Dynast. Pocock. p. 8. Histor. Medic.
J. Friend. vol. i. p. 198. Gibbon, vol. i.

Saracens, medicine seems not to have suffered : for the doctrine of predestination did not induce the Mahometans. to neglect those arts which profess to heal wounds, cure diseases, and prolong life. They on the contrary, fostered them, and Pharmacy and Chemistry were especially improved, in the Arabian schools ; and some of their doctors were so zealous and credulous, as to search with perseverance for the elixir of immortality.

It was not however till the reign of the caliph Almoctaderus, about the year 941, that government appears to have adopted any regulations for the controul of medical practitioners. When information * having been given, that a man was killed at Bagdad, by an ignorant person who had assumed the character of a physician ; the caliph gave to his own physician, Sinan Ben Thabet, the honorable and important commission of examining all others, and of granting to those whom he judged to be competent, licences to practise medicine. The number who were licensed after examination, amounted to eight hundred and sixty ; and there were besides some royal physicians, and others of distinguished knowledge, who were not called in

* Biblioth. Arab. Hispan. tom. i. p. 438.

question.. There are some anecdotes related of these Arabian physicians, which shew that they were not ignorant of human nature. An example of their knowledge of each sex shall be given.

Messue*, whose works on Small Pox are quoted by Hali and Rhases, was chief physician to the Caliph Harun al Rashid. He was himself a Christian, and was one day consulted by a corpulent priest of the same persuasion for a disorder in his stomach, a malady not unfrequent with this order of men at Bagdad. The physician, after hearing patiently all his oppressive symptoms, would have prescribed a warm confection, named alehusi : but the priest assured him, that it was too weak for his constitution, as he had already tried it without effect. Messue very candidly admitted that it was a preparation which did not succeed in all cases : and he therefore recommended him a course of dyacimin; but as it was a powerful stomachic he must commence with a moderate dose. “ Why,” said this perplexing patient, “ I have already swallowed several pounds of it, “ without perceiving the slightest effect.” The physician seemed unembarrassed, and declared,

* Abul-pharag. Pocock. p. 153. He is stiled “ Johannes filius Masawaihi (Messue) Christianus, Syrus,” &c.

that no other organ of the body was so various in its dispositions and functions, as the stomach; and that as his was so peculiarly untractable, recourse must be had to the corroborating tonic named albendadikin. "Alas!" cried the despairing patient, "before I consulted you, I drank above a gallon of it!" Messue being now piqued, asked him, if he had also taken ambrosia in the same abundance, "Yes," said the priest, "with the ambrosia of your shops I am thoroughly surfeited." The doctor then collected his thoughts, and pronounced with gravity, "that one remedy alone remained; but which, even in the most obstinate cases of indigestion was infallible, you must turn Mahometan."

The essential parts of this prescription may be used without apostatizing, even by the dignitaries of the English church; for they consist in a total abstinence from wine, with a plenary indulgence in preaching, washing, and fasting.

Another * physician of those times displayed equal skill in one of those female cases which defy all medical theories.

A beautiful and favorite slave of the caliph Harun al Rashid was one morning alone, and

* Abul-pharag. Dynast. Pocock. p. 153.

happening to yawn, one of her arms suddenly stiffened. The whole Seraglio was thrown into consternation, and while the court physicians were alternately embrocating her arm with relaxing liniments, and fumigating it with fragrant anti-spasmodic gums; the dismal tidings were cautiously intimated to the enamoured caliph. He instantly gave orders that no remedy should be left untried. Abundance were accordingly made use of, but nothing availed; the physicians were confounded, the eunuchs uttered dismal groans, the women shed floods of tears, and the caliph retired from the scene, absorbed in grief. In the midst of this deep distress, Al Jaafer, the Grand Visier, who had been cured of a secret indisposition by Gabriel Bachtishua, ventured to extol him to the caliph for his wonderful skill; and to advise that he should be consulted. In a moment the captain of the guard was dispatched; Gabriel was brought, and the melancholy and extraordinary case was described. After a few minutes spent in silent reflection, the physician said, "Commander of the faithful, I have found out a remedy." "What is it cried the caliph?" Gabriel replied, "Let the young lady be brought here; and I request a promise that you will not be offended, while, before all this presence, I do what I judge requisite for her cure." The caliph

assented; and the afflicted girl was introduced, having only a fine piece of flowered muslin, negligently thrown around her. She was rendered more interesting by her raised arm, having involuntarily fixed itself in a graceful attitude. As soon as she entered, Gabriel boldly ran up to her, stooped down and grasped the fringe of her train, as if he was resolved to lift it up. The Lady confused and crimsoned, brought down ~~her~~ arm instinctively, to preserve the propriety of her dress, and to hinder the threatened indignity. On which Gabriel exultingly exclaimed, "Oh! Commander of the faithful, she is cured!"

All present were amazed; and the Caliph was so transported, that he ordered five hundred thousand pieces of money to be paid him instantly, and thenceforward admitted him into his friendship.

In reading this agreeable catastrophe, some licentious, nay some licensed physician, may feel an itching in his palm to touch such a fee and such a fringe: but he shall now learn that medical intercourse with these despotic sovereigns was not always to be coveted.

Honain*, a Christian physician, and scholar to Messue, who surpassed his master in learn-

* Abul-pharag. Dyn. Pocock. p. 172, about A. D. 878.

ing, and has rarely been equalled in virtue, had a severe trial. After prosecuting his studies at Bagdad and Balsora, he travelled to Constantinople to cultivate Grecian literature ; and made such proficiency, that he and his disciples translated most of the classical medical authors into the Syriac and Arabian languages.

The Caliph Motavekkel perceived that a man possessed of such rare talents might be a valuable acquisition ; but his soul was tinctured with the gloomy suspicions common to Eastern Monarchs. He had conceived a doubt that Honain might be seduced by his successor, or by his enemy the Byzantine Emperor, to poison him. Being determined to prove his fidelity, he sent for Honain, and condescended to dissemble. The physician was received with unusual ceremony, and was invested with a magnificent robe: when introduced into the imperial presence, a diploma was put into his hands, which conferred upon him a revenue of fifty thousand pieces of money. The Caliph then addressed him most graciously, and after many flattering expressions, desired him to prepare a drug, by which he might dispatch one of his enemies without its being known. Honain answered, “ I have hitherto only searched for
“ salutary remedies, and I never imagined that
“ the Commander of the Faithful would have

“ required of me others. Yet since it pleases him
“ to demand medicines of an opposite quality,
“ I shall seek for them; but it will require some
“ considerable time.” The Caliph suspected that
this was a mere pretext to escape beyond his
reach; and therefore urged him repeatedly and
vehemently, with tempting promises and alarm-
ing threats, to obey his injunctions; while
Honain mildly maintained his total ignorance
of poisons. At length the Caliph, exaspe-
rated to fury, commanded that he should be
thrown into a dungeon: and he was instantly
hurried from the palace, and plunged into a
noisome cell, kept for the worst criminals;
where he was watched by an officer, who re-
ported daily all his words and actions to the
Caliph.

Honain occupied his mind, as much as he
was able, in study; and, after a year’s impri-
sonment, was dragged before the Caliph,
throned in Oriental state. Splendid dresses,
rich embroidered stuffs, were spread out, and
heaps of gold and other precious effects were
piled up, on one side. On the other were ar-
ranged instruments of torture, and a naked
scimitar lay upon a skin stained with blood.

The aspect of the Caliph was grim, and his
voice terrible, “ there shall now be a termina-
“ tion to this business; my will shall be no longer

“ thwarted by yours. Yield instant obedience to
“ my demand, and you shall be gifted with all
“ that wealth, nay more than double, shall be
“ given you. But if you again equivocate, you
“ are doomed to torture and death.” Honain
replied with composure, “ I can only repeat,
“ Commander of the Faithful, what I said for-
“ merly ; that all my knowledge is confined to
“ salutary medicines.” Immediately the Caliph’s
countenance mitigated, and he said smiling,
“ compose your spirits, this was only a trial
“ of your fidelity, for I suspected the secret prac-
“ tices of Kings ; but now I am convinced that
“ your art is innocent.” Honain kissed the
ground and thanked the Despot ; who then
asked him, what had enabled him to resist his
commands. Honain answered, “ my profes-
“ sion and my religion. By the first I am enjoined
“ to be useful to mankind, and bound by an oath
“ never to exhibit a noxious drug ; and my reli-
“ gion inculcates this moral duty, to do good even
“ to my enemies.” The astonished Caliph ex-
claimed, “ these are incomparable precepts !”
and he ordered that the physician should be ar-
rayed in a royal habit.

In the magnificence and power of the first Caliphs there was an air of sublimity ; while their cruelty and treachery often excited horror. And in the character of the Saracens, ferocity

and fanaticism were conjoined with surpassing generosity, and chivalrous gallantry. Religious toleration, and the controulment of their passions, were doctrines neither preached nor practiced by the sensual Prophet. Yet for several ages, that people surpassed the Europeans in civilization; and when literature was extinct at Rome, the Greek and Latin classics were read with delight at Bagdad.

The Small Pox and Measles were soon so universally spread through the Mahometan empire, that the theories of the Arabian physicians were founded upon the belief that these diseases were natural changes, incident to the humors of all human beings.

These contagions, in consequence of their subtilty, accompanied the Saracens wherever they carried their arms.

And in the year 647, * Abdalla, the boldest and most dexterous horseman in Arabia, marched with forty thousand Moslems, and a long train of camels, across the desart of Barca to Tripoli, which he took by storm. Other expeditions, under other leaders, followed; and, in less than fifty years, the Greeks and Goths were massa-

* The Decline and Fall of the Roman Empire, by Ed. Gibbon, v. ix. p. 448.

cred, or driven from the African coast of the Mediterranean. The Moors, when subjected, and infected with the Small Pox and Measles, embraced the Koran, assimilated themselves with their conquerors, conferred upon them their name, and, from congenial habits, became indistinguishable.

CHAP. IV.

THE DIFFUSION OF SMALL POX THROUGH EUROPE
AND AMERICA.

AS at the beginning of the eighth century, the whole eastern and southern coasts of the Mediterranean were subdued by the Arabians; and as their ships swarmed in that sea, Europe could not possibly escape much longer, from the Small Pox and Measles. But the introduction of these diseases, together with the downfall of the Gothic monarchy in Spain, appear to have been owing to a rape committed by a King, and to the vengeance of a beautiful woman.

In the year 710, Cava, daughter of Count Julian, was an attendant of the Queen of Spain. By accident one day too much of her fine person was momentarily uncovered, and the instantaneous glance inflamed Roderick. But the noble virgin declined his presents with modesty, and repelled his importunities with scorn. All his artifices being frustrated, the tyrant employed violence.

Cava disclosed the secret outrage to her father, who was driven by the desire of revenging the honor of his family, and of punishing the ravisher, to betray his country to the Miramolin of Africa. An army of Moors, conducted by Julian, landed at Gibraltar; the Goths were routed, Roderick perished, and the Mahometans were established in Spain. Julian profited nothing by this success; his own fate and that of his daughter are unknown; but his two sons were afterwards murdered by the Moors, on suspicion. By this invasion the Small Pox must have been brought into Spain, and the victorious Saracens soon reached the Pyrenees.

In the year 731 Abderame crossed these mountains, and inundated the southern provinces of France with an host of Saracens. They were opposed, under the walls of Tours, by Charles Martel, where Christians and Mahometans fought six days, indecisively, for victory, and for the pre-eminence of their creeds. But in a closer combat on the seventh day, the impetuous yet slender Africans and Asiatics were crushed by the superior strength of the Germanic warriors. The Saracens and the Koran were repelled into Spain, but the Small Pox and Measles remained in France. No warlike efforts could drive off these infections, and the opportunities of diffusing them had at that time

become innumerable. The Saracen fleets were triumphant in the Mediterranean; Sicily and Italy were frequently invaded; many cities of the coast were repeatedly captured, and Rome itself was menaced. It cannot be doubted that so much intercourse with Africa and Asia brought over these maladies, though no direct proof can be adduced. But the circumstantial evidence is sufficiently conclusive.

To investigate this point, it became requisite to peruse the European historians of the dark ages. But the sterile chronicles of the old monkish writers, give scanty intelligence of the internal state of nations, and rarely mention those civil and domestic occurrences, on which so much of the comfort or misery of the people depend. Instead of these more interesting details, they dwell chiefly upon the feats of their Gothic kings and barons; who were alternately sacking cities and founding monasteries; or upon the conduct of their haughty queens and noble dames, whose passions and piety sometimes hurried them into furious and ridiculous excesses. Foul murders and adultery were committed by some, while many became nuns, and a few remained virgins, even in the marriage state. But the chief heroes of those gloomy times were monks, eremites, and Saints; who are drily described in the extremes of power and misery;

trampling on Kings, performing miracles, perishing in want, or consuming in fire.

Amidst scenes like these, little attention was paid to solve medical questions: almost the only disease which the writers of chronicles deign to mention, is the plague. That word had however a much more extensive signification, than it has since; and was applied then to every dangerous epidemic.

On some occasions an epithet, or brief description was added, by which the real disease may be recognized: but on others the accounts are so much exaggerated or disfigured, that the truth cannot be ascertained. The true plague was usually denominated the * inguinal, glandular, or pustular Plague: the Erysipelas was sometimes named the Plague of fire, or the holy fire: all malignant fevers, even † malignant sore throats and ‡ dysenteries were termed plagues.

* *Pestis inguinaria, pustula, glandula; pestis, aut pestilentia ignis, sacer ignis, Lues.* All these names were common in the old chronicles.

† A. D. 589: "Ce secont deluge eusivi une pestilence, qu'on apele Equinancie." *Chroniq. de St. Denis, lib. ix.*

Recueil Histor. Franc. par Bouquet. tom. iii. p. 253.

‡ "Et Dysenteriaz morbus totas prope occupavit Gallias." *Aimon. Monarch. Flor. Recueil des Hist. Franc. par Bouq. tom. iii. p. 83.*

It is recorded that in the year 827 * there was in France a pestilential fever, attended with a cough: and “in 877† that the Italian “fever, a cough, pain in the eyes, and the “plague, destroyed great numbers.”

Frodoard mentions a disease of a similar character, which took place in 927‡. He asserts, that “in the month of March, upon a Sunday, “there appeared at Rheims armies of fire in the “heavens. This sign was immediately followed “by a plague, consisting of a fever and cough, “which raged through all Germany and France, “and caused a great mortality.”

The description given of these last plagues is too ambiguous to determine with certainty, whether the Catarrhal Influenza, or the Measles were meant. But it is quite certain that the Small Pox was in those days included among the

* A. D. 827. “Pestis quasi febris et tussis, &c.” Ex. Chronic. Verdun. Recueil par Bouq. tom. viii. p. 289.

† A. D. 877. “Febris Italica, tussis et dolor oculorum, et “pestilentia multos graviter vexavit et extinxit.” Ex Chronic. Herman. Recueil par Bouq. tom. viii. p. 289.

‡ A. D. 927 “Acies ignea, remis in cœlo vis quadam Do- “minica die in Martio mense, cui signo Pestis vestigio suc- “cessit, quasi febris et tussis, qua prosequente quoque mortalite “per cunctas Germaniæ Galliæque gentes descœvit.” Ex. His- tor. Frod. Recueil par Bouq. tom. viii. p. 164.

pestilences. For in the first translations of the works of Rhases, the Small Pox is termed *Pestis*; and Constantinus Africanus, as well as many of the early medical writers, class it with pestilential fevers. A nicer discrimination was not to be expected among the historians. Therefore Polydore Virgil states* that the plague occurred in England during the reign of Edward the Third, in the year 1366: and Ralph Hollinshed, in describing the same disease, uses this phrase†, “Also manie died of the “Small Pocks, both men, women, and children.”

The Small Pox being included in the term Pestilence, explains satisfactorily why it is not named by the older writers; and also accounts for the very frequent occurrence of the Plague in early times. In the old Chronicles the Plague is recorded to have visited France eleven times in the ninth, and six or seven times in the tenth centuries. Some of these visitations were unquestionably the Small Pox and Measles.

* “Per hunc modum quietis aliquantisper a bello rebus, ut
“ne otium domi jucundum esset, pestilentia orta est, qua multi
“mortales periere. Incidit hæc lues in annum salutis 1366.”
Polyd. Virgil. Urbin. Aug. Histor. lib. xix. p. 398.

† Chronicles by Ralph Hollinshed. Vid. the reign of Edward III. This is the first time Small Pox is mentioned by an English Historian.

The pestilence of Fire, of which horrible descriptions are given, may have been, in some instances, the Small Pox.

Genulf says *, that when this disease prevailed in France in 923, “ it was shocking to hear the
“ groans of the sufferers, to see parts of their
“ bodies, as if burnt, dissolving away ; and to
“ smell the intolerable fœtor of the putrid flesh.” And in 994, it is stated, that “ the pestilence
“ of Fire burnt in Limosin, where innumerable
“ bodies of men and women were consumed by
“ *invisible fire* : and forty thousand people were
“ killed by it in Aquitain.” Another Chronicle mentions, that in the eleventh century “ the
“ people died miserably from their limbs being
“ burnt black by a *sacred fire*.” These and simi-

* A. D. 923. “ Erat enim non solum audire stridores eorum
“ pre dolore vel exustas a corporibus effluere partes videre
“ miseria ; verum etiam ex putræ carnis fœtore res intoleranda,”
&c. Ex Histor. F. S. Genulf. Bouquet, tom. x. p. 361.

“ His temporibus Pestilentia ignis super Lemovicinos
“ exarsit : corpora enim virorum et mulierum supra numerum
“ invisibile igne depascebantur.” Ex Chron. Ad.Cab. Bouquet,
tom. x. p. 147.

“ Hujus (Josfredi i.), principatu Plaga ignis super cor-
“ pora Aquitanorum desævit, et mortui sunt plus 40 millia ho-
“ minum ab eadem pestilentia.” Ex Cōmmem. Abbat. Lemov.
S. Martiales, &c. Bouq. tom. x. p. 318.

A. D. 1085. “ Alii sacro igne membris exesis instar car-
“ bonum nigrescentibus, miserabiliter moriebantur.” Ex
Chronic. Tur. Bouquet, tom. xii. p. 465.

lar uncouth expressions, may be understood to apply to the gangrenous Erysipelas. But it seems very improbable that this distemper alone should have spread so widely, destroyed such multitudes, and recurred so often. No such epidemic Erysipelas is now known in Europe. It therefore seems reasonable to conjecture, that the Small Pox and Measles were not discriminated from Erysipelas, and that all were included in these frequent accounts of the plague of Fire.

From the preceding history, it could not have been expected that the earliest accounts of the Small Pox having reached Europe, should be found in Ireland. Yet Doctor O'Connor *, a most industrious Antiquarian, who has long been engaged in elucidating the history of that island, by the contents of an immense heap of Irish manuscripts in the Bodleian, and in the library of the Marquis of Buckingham, has found traces of that disease there. These manuscripts are written in ancient characters,

A. D. 1094. "Iterata Lues subcutanei ignis plebem
"Aquitanicam atrocissime torrebat." Ex Chron. Gaufrid.
Vor. Bouquet, tom. ii. p. 427.

* This learned Ecclesiastic has lately published, *Rerum Hibernicarum Scriptores Veteres*, tom. i. &c. &c. Auctore Carolo O'Connor, S.T.D. Buckinghamiæ, 1814.

and in Latin the ~~terminology~~ in the Irish language: and consequently are intelligible to very few persons. In one of these works, denominated the Annals of Ulster, it is stated, "that there was in the year 577, a grievous Leprosy, which in Ireland is called Bolgach:" and that the same pestilence recurred in 742. In Brian's Irish Dictionary, the word Bolgach, is translated the Small Pox: and the plural Bolgaidhe, Plisters. Notwithstanding this, it seems extremely improbable, that the Small Pox should have reached Ireland so early as the first period, which was thirty years before the invasion of Spain by the Moors. That the disease should have been conveyed there towards the middle of the eighth century, is not impossible; for the intercourse between Ireland and the Continent was not inconsiderable even in the sixth; as may be gathered from Bede †, Marian Scot, and the Irish Historians.

* " A. D. 579. Lepis gravissima in Hibernia quæ vocatur Bolgach."

" A. D. 742. In Bolgach Domnall mac Murcha regnare cepit. " Annals Ulsterenses — primum in luce editi, curante Rev. D. Carlo O'Connor.

† Bedæ Venerab. tom. iii. Sancti Columbani Vita. Also his account of Furseus, &c.

Dissertations on the History of Ireland, by C. O'Connor, Esq. Dublin, 1766. Rerum Hibernicarum Veteres Auctores, Carolo O'Connor, 1814.

In those ages, when the continent of Europe was ravaged by swarms of northern Barbarians, the Irish Scots were distinguished for literature and sanctity. There were then several celebrated schools and academies in Ireland, crowded with foreign and native scholars : and many Saints and other religious missionaries, emigrated from that comparatively learned island, to instruct and edify the Continent. Independent of commerce, this literary and religious intercourse might account for a very early importation of the Small Pox into Ireland; yet the above quotations appear insufficient to establish that fact. For the word *Bolgach* might have been originally the name of a species of leprosy, and only applied to the Small Pox in later times. It is, perhaps, some confirmation of this conjecture, that in the fourteenth century, when the Small Pox was generally diffused, it is then mentioned in these Irish chronicles by the term *Galra breac*, literally the speckled disease ; the name which it has retained in Ireland to the present day.

The passage, when translated into English, runs thus :

“ Fergal the son of Dermot, Chief of Moy-
 “ lurg, lion of the nobility, and the most dex-
 “ terous in arms of all his sept : and Tomaltach
 “ the son of the said Fergal son of Dermot,

“ Tonast of Moylurg, died of the Galra breac
 “ (Small Pox) in 1368.”
 “ William the Saxon, son of Redmond (Sir
 “ Edmund) Burke, heir of the Mac Williams,
 “ died of the Galra breac (Small Pox) in the
 “ island Cua,” in 1368 also. *

Dr. Short, in the Preface to his History of the Air, and of its Effects on Animal and Vegetable Bodies †, mentions, that he had spent sixteen years in that compilation, which is confirmed by the mass of information it contains. He states, that in the year “ 907, “ Princess Elfreda was sick of the Small Pox, “ and recovered.” It is to be regretted that the Doctor has not quoted his authority, and I have searched for it in vain; but his learning and accuracy prevent any doubt of the fact being entertained. It seems probable, from a subsequent fact, that the Princess alluded to was a daughter of Alfred the Great, who was married in the year 899 ‡, to Baldwin the Bald, Earl of Flanders. This Princess died in the year 917.

* Extracted and translated by the Reverend Doctor O’Conner, from the Annals of the IV Masters, an ancient Irish manuscript, in the library of the Marquis of Buckingham, at Stow.

† A general Chronological History of the Air, Weather, Seasons, Meteors, &c. v. ii. p. 208.

‡ Anno Domini 899. “ Tunc Rex Francorum Carolus et “ Comes Flandriæ Baldwinus Calvus duas filias Regis Anglorum “ habuerunt uxores. Rex scilicet Odgivam filiam Edwardi, de

The next case recorded of Small Pox was the grandson of the same Elfreda, whose name also was Baldwin. The event is noticed in the Bertinian Chronicle, as follows. “ About
 “ Christmas, 961 *, Baldwin, the son of Arnolph,
 “ Earl of Flanders, was attacked with a disease,
 “ which physicians call Variola, or the Pock,
 “ and died on the day of our Lord’s circum-
 “ cision following.”

In a genealogy of the Earls of Flanders, preserved in a Cistertian monastery, and published in Bouquet’s compilation, the same fact is related thus, “ The Iron Baldwin † begot Baldwin the
 “ Bald, who married Elstrude (Elfreda), daugh-
 “ ter of Alfred, King of England. Baldwin the

“ qua Ludovicum suum in regno successorem genuit : Comes
 “ Flandriæ Baldwinus Elstrudem (Elfredam) filiam Alfredi,
 “ sororem Edwardi, de qua genuit Arnulphum et Adolphum.”
 Ex Chronic. Sithiens. J. J. Sithiens. Abbat. Recueil des
 Historiens des Franks et des Gauls. Bouq. tom. ix. p. 74.

* A. D. 961. “ Circa natale Domini Baldwinus filius
 “ Arnulfi Flandriæ Comitibus morbo, quem medici variolas, sive
 “ poccas nominant, corripitur; et in die Circumcisionis Domini
 “ immediate sequente cursum sequentis finivit vitæ.” Ex Chro-
 nic. Sithien. St. Bertini. Bouq. tom. ix. p. 79.

† “ Baldwinus Ferreus genuit Baldwinum Calvum, qui
 “ duxit Helderadam (Elstrudem) filiam Otgeri (Alfredi) Regis
 “ Anglorum. Baldwinus Calvus genuit Arnulphum Magnum,
 “ restauratorem Blandinensis Cænobii, qui duxit Adclam filiam
 “ Herberti Comitibus Virimandorum. Hic Arnulphus acquisit
 “ Atrebatum anno ab Incarnatione Domini 932.

“ Bald begot Arnolph the Great, the restorer of
 “ the Convent of Blandigny who married Ade-
 “ laide, daughter of Herbert, Earl of Verman-
 “ dois. This Arnolph acquired Artois in the year
 “ 932. Arnolph the Great begot Baldwin, who
 “ died of the variolous disease before the death
 “ of his father, and was buried at Saint Bertin.”

These are perhaps the first authentic passages in which the two words *Variola* and *Pocca* are to be found; for the quotation formerly noticed from Marius Aventicensis * cannot be depended upon. And as etymology gives aid to history, it ought not to be neglected.

The Small Pox and Measles not having existed in the classical ages, there could be no term for it in the Greek or Latin languages. The Arabians invented words of their own. But when these maladies appeared in Europe, the Latin language was universally in use among the learned. *Pestis*, *Pestilentia*, and *Lues* were

“ Arnulphus Magnus genuit Balduinum, qui morbo variolæ
 “ ante obitum patris obiit, et apud S. Bertinum sepultus est.”
Brevis Flandriæ Comitum Genealogia. Ex. MSS. Cod.
 Cistern. Bouquet, tom. xiii. p. 417.

“ Il (le Conte de Boudouyn) morut apres avoir gouverné
 “ trois ans, en l’an neuf centz soixantesept, des petites veroles,
 “ en sa ville de Berghes Saint VVinoch, et gist a Saint
 “ Bertin, &c.” *Les Chroniques et Annales de Flandres, &c.*
 par Oudegherst, &c. Anvers. 1571.

* Vide page 7.

applied to these, in common with other epidemics ; *pestilentia ignis*, the fire plague, was probably applied to erysipelas, and all dangerous eruptive diseases. But as a word was wanted to designate the new disease, *Variola* was coined, evidently derived from the Latin word *Varius*, which signifies spotted, or from *varus**, a pimple. Thence the Spaniards formed their name, *Viruelas*, which the Italians liquified into *Il Vignolo*, and the French framed their *Verole* : for the diminutive *petite* was not added till about the fifteenth century. The French had a word of their own, also, for Small Pox, *Piquote*, which is used by Rabelais and the old French writers. It appears that when the malady extended to the North of Europe, that the Saxons, instead of adopting the Latin word *Variola*, invented the vernacular name *Poccadl*†, derived from *Pocca* or *Pochcha*, a bag or pouch. The Anglo-Saxons also adopted this word, which was vari-

* Celsus and Pliny take notice of *Vari* ; and the latter author, for the benefit of the Roman ladies who were afflicted with pimples on their faces, gives the following receipt for a very delicate cosmetic, “ Hen fat well beat up and mixed “ with onions cures pimples.”

“ Varos adeps Gallinaceus cum cæpa tritus et subactus “ (sanat).” C. Plin. Hist. Nat. lib. xxx. c. 4.

† “ Poc. pocc. *A pock*. Pustula, papula, tuber. Poc- “ adl. Morbilli, pustulæ, variolæ. Pocca. pochcha. pohæ. “ *A pou ch*. Pera.” Diction. Gothico-Latin. Ed. Lye.

ously spelt by different writers, and became at length Pock and Pox. *

The epithet Small in England and *petite* in France, were subsequent additions.

It is rather odd, that the earliest cases of Small Pox in Europe, should be those of a British Princess and a Flemish Prince; as before that disease had reached Flanders, it must have traversed all the intermediate countries from the Mediterranean, and it must have existed some time in the North, before it acquired a Saxon name. A perusal of the annals of the celebrated convent of St. Gall has furnished me with another case of Small Pox, about the same period, and with some medical anecdotes not undeserving of notice.

Saint Gall was a venerable monk,* who having been fully enlightened in the learned academies of Ireland, and having observed that his devout and civilized countrymen could dispense with his pastoral care, set out on a pilgrimage to reform the wilder Swiss. Wherever he sojourned, his sanctified deportment commanded pious respect; and having reached Switzerland, he there founded a convent to which he gave his name.

In these consecrated walks, his last days were

* Rerum Alamannicarum Scriptores aliquot Vetusti, &c. Ex. Biblioth. Melchior. Haim. Gold. Ekkard, junior, &c. Liber de Casib. Monast. Sti. Galli, &c. Franc. 1661, p. 52.

spent, and his sacred bones were deposited; which in after ages were regarded as inestimable relicks.

The annals of this convent were written by a succession of monks; one of whom was Ekkehard the younger, who died either in the year 966 or 967; which point being debated, is respectable to the reverend author's memory.

Notwithstanding the veneration that such abodes were once held in, moderns are prone to believe, that even the convent of St. Gall was a useless and dull institution; and it must be owned, that these respectable annals do not enable us, in a convincing manner, to refute this heavy accusation. For although father Ekkehard may have unravelled the intrigues of those ambitious monks who aspired to the dignity of abbot, most faithfully; yet, in the present times, they can only be read short. He has however described one of his friends with more success.

Notkerus was both a monk and a physician, who, besides knowing something of theology and medicine, was a rare scholar, an interesting painter, and a delightful poet. So various were his talents, that he relieved the sick monks when languishing in their cells, with physic and prayers; he adorned the walls of the monastery with his pencil, he composed Latin hymns, and chanted them in the chapel, and

made the roof of the refectory ring with his wit. His pictures and poems have been suffered to perish, and the few remaining specimens of his jests are obscured by Gothic Latin; but two examples of his medical abilities have been preserved.

Henry the second, Duke of Bavaria, a person of some humour, consulted Notkerus upon his health; he gave a feigned account of his complaints, and shewed him a bottle, according to the usage of these times; but it contained a deceptious liquid. The monastic doctor alternately examined the bottle and the patient, scientifically and shrewdly; at length, bursting with inspiration, he exclaimed, "Behold a miracle! an unparalleled miracle! a man, nay this mighty duke, hath conceived, and in thirty days he shall bring forth a son, and suckle him at his breasts!" The detected Duke confessed his stratagem to the priest of God; and the prediction was mysteriously fulfilled, nearly at the time foretold, by a fair maid of honour. Some temporary disgrace was incurred; but, through the earnest intercession of Notkerus, the duke was appeased, and the lady, when recovered, was restored to favour at Court.

Soon after this pretended consultation, he was sent for in good earnest by Kaminaldus,

the bishop of the diocese, who had been suddenly taken ill. The physician, well aware of the prelate's plethoric regimen, instantly bled him most copiously. And, after viewing the rich inflamed blood, prognosticated, as was believed, from the smell, that in three days the Small Pox would break out. The bishop, though fully prepared, was not the less alarmed; and besought the physician to stop that dangerous eruption. Notkerus replied, "that I could easily do, but if I obeyed, my regrets and misery would be insupportable; for to check the eruption would be equivalent to delivering up your reverence to death." This answer was convincing, and stopt all argument, after conviction. The prelate did not persist. The Small Pox was allowed to proceed regularly, and the bishop was cured without being even pitted.*

The sagacity of this physician, in predicting the Small Pox, and his success in the treatment, are clear proofs that the Faculty in Switzerland were in that age quite familiar with the disease; and we may deduce, from the geographical posi-

* "Odorato cruore variolarum morbum die ei (Notkerus) prædixit futurum. Sed pustulas illa die dicta sibi erumpentes cum eum restringere (Kaminaldus) peteret. Enim ait medicus facere potero, sed nolo, quia necis tuæ reus karrinas tot ferre non potero: quia si restrinxero morti te trado: pustulasque tandem eruptas ita in brevi sanaverat, ut nec saltem de una fuerit signabilis." Loco citat. Ekkehard.

tion of Italy and France, that the malady must have been known in these countries still earlier.

After the contagion had overspread the continent of Europe, Great Britain could not long escape; which was invaded, in quick succession, by Saxons, Danes, and Normans.

In the Harleian collection, in the British Museum, there is a very antient Anglo-Saxon manuscript, which, from internal evidence, is judged to have been written in the tenth century. It contains many pious exhortations, exorcisms and prayers, in the Saxon and Latin languages; and among others there is a supplication in Latin, which may be rendered thus. *

“ An exorcism against the Small Pox.

“ In the name of the Father, of the Son,
 “ and of the Holy Ghost, amen. *Nº* May our
 “ Saviour help us. *Nº* O Lord of Heaven! . . .
 “ hear the prayers of thy man servants, and of
 “ thy maid servants; O Lord Jesus Christ. I be-

* “ *Exorcismus contra Variolas.*

“ In nomine Patris, et Filii, et Spiritus Sancti, amen. *Nº* *
 “ in adiutorium sit Salvator noster *Nº* dominus celi . . . audi
 “ preces famulorum famularumque tuarum Domine Jhesu
 “ Chrispte . . . adque peto Angelorum milia aut (ut) me *Nº*
 “ salvent ac defendant doloris igniculo et potestate Variola, ac
 “ protegat mortis a periculo; tuas Jhesu Chrispte aures tuas no-
 “ bis inclina.” &c. Bib. Harleian, lib. MSS. num. 585, p. 202.

* The mark *Nº* denotes where the exorcist made the sign of the cross.

“ seech thousands of angels that they may save
“ and defend me from the fire and power of the
“ Small Pox; N^o and protect me from the dan-
“ ger of death; O Christ Jesus! incline your ears
“ to us, &c.”

This affecting prayer, shews strongly the terror which the Small Pox had inspired.

In the Cottonean Library there is a similar monastic manuscript, containing extracts from the writings of Cassiodorus, and other primitive fathers of the church.

In this collection there is a prayer to St. Nicaise, which seems to have been intended for the consecration of Amulets made by Nuns, and inscribed with his name, to be worn as a protection against the Small Pox. It should be allowed in charity to our forefathers, that such an ecclesiastical composition was of a very ancient date. This copy was probably written in the tenth century; as it is followed by a calendar of the paschal terms, beginning with the year 988, and continued by successive hands to the year 1268. It is in barbarous Latin, with a chorus of unmeaning syllables for chanting, as was the practice of the monks, and may be rendered into English, as follows *.

“ In the name of our Lord Jesus Christ, may

* In nomine domini nostri Jhesu Chrispti. tera tara. mandeis. moab. lib. libes.

“ the Lord protect these persons; and may the
 “ work of these virgins ward off the Small Pox.
 “ Saint Nicaise had the Small Pox, and he
 “ asked the Lord (to preserve) whoever carried
 “ his name inscribed.

“ O, Saint Nicaise ! thou illustrious Bishop
 “ and Martyr, pray for me a sinner, and de-
 “ fend me by thy intercession from this disease,
 “ Amen.”

As it is asserted in this prayer, that Saint Nicaise, who had been Bishop of Rheims in the fifth century, had the Small Pox, it was important to investigate the fact. In the *Lives of the Saints* by Surius *, there are two of Saint Nicaise. One is very ancient, but anonymous : the other is the most copious, and is extracted from the works of Flodoard, who was born at Rheims, and wrote a full History of the Church of that city.

He relates, that when an army of Vandals had entered Rheims by storm, and were massacring the inhabitants ; the benevolent Bishop,

Dominus, Dominus adjutor sit illi, illis earum filiarum artifex.
p. id. poccas.

Sanctus Nicasius habuit minutam variolam, et rogavit dominum ut quicumque nomen suum secum portare scriptum.

“ *Sancti Nicasi presul et martir. egregie ora pro me peccatore, et ab hoc morbo tua intercessione me defende, Amen.*”

blioth. Cotton. Caligula A. xv. No. 30. p. 125. Vide Inocul. Woodville.

Vitæ *orum Surius, tom. vi. p. 266.*

arrayed in his ecclesiastic robes, and accompanied by Eutropia, his virgin sister, devoted themselves to stop the fury of these Infidels, and to save the lives of the citizens. But the ruffians were neither overawed by the venerable Bishop, nor melted by the beauty of the maid : for while he was exhorting them to spare the people, they transfixed him with their spears, and laid him dead at his sister's feet.

At this spectacle, Eutropia raised her imploring eyes to heaven, sunk on her knee, exposed her naked neck to the swords of the Vandals, supplicating that they would only kill her. She obtained some mercy, for one of the least inhuman of these Barbarians, struck off her head, in sport.

These murders were in the language of that age termed martyrdoms, and the Bishop and his sister were canonized. Saint Nicaise was deservedly regarded as the glory of the church and city of Rheims, and Flodoard has collected every particular of his life that was known : but not a syllable is mentioned of his having had the Small Pox. That assertion in the Anglo-Saxon prayer can therefore only be considered as one of those pious frauds which were so frequent in the dark ages. A saint was wanted to superintend this new disease, and Saint Nicaise was accidentally pitched upon by the

ignorant Monks; who, to justify their choice, asserted that he had a disease which did not appear in Europe till about three centuries after his death.

In the eleventh century, Constantinus Africanus in Italy, and Avenzoar in Spain, published their works, in which are included discourses on Small Pox, as an ordinary malady. Notwithstanding which Dr. Mead, Baron Dimsdale, and many others, have maintained that the Small Pox was brought into Europe by the crusaders, who did not set out on their frantic expedition until the year 1096.

This opinion had no foundation, either in reasoning or in history. For although the contagion of Small Pox might be very readily carried by an invasion, to the most remote countries; yet it is not likely to retrograde upon the country of the invaders, by means of the returning survivors: because the contagion acquired abroad would be dispersed before they could reach their homes, as was formerly noticed. The Small Pox in fact reached Europe more than two centuries before the Crusades; and the historians of the holy wars take no notice of the Christian armies having suffered from that malady. In searching them, only a single trace of it was detected in the following description by Bernard, of the

person of the Count Joscelin * grandson of Atho, the founder of the illustrious family of Courtney. “ This Count was small in stature, his limbs
 “ were finely formed, his hair was brown, and
 “ his countenance pleasing, *though pitted with*
 “ *marks of the Small Pox* ; his eyes were large,
 “ and his nose aquiline. He was gallant and
 “ fierce in battle, but loved the pleasures of the
 “ table, and was too luxurious.” These Small Pox marks might have been acquired in early life in France, or the historian probably would have omitted that defect in describing so favourite a knight.

His death occurred in 1132, and was so memorable as to justify a digression.

“ When Fulco reigned at Jerusalem, Joscelin,
 “ Count of Riez was occupied in the siege of a
 “ Turkish town; and having undermined the wall,
 “ it suddenly fell down and involved him in the
 “ ruins. The soldiers seeing the Count in danger,
 “ ran to his assistance, removed the stones and
 “ earth with which he was oppressed, and carried him to his tent on his shield.

* “ Fuit enim statura pusillus, sed in membris valdè formosus,
 “ capillo brunus, facie lætus, *variolarum tamen signis impressis*,
 “ oculos magnos, et nasum oblongum habuit. Dapsilis et acer
 “ in armis fuit, sed comessationibus et luxuriæ nimium deditus.”
 Bernard. Thesaur. Liber de Acquisitione Terræ Sanctæ ab
 Anno 1095, ad Annum circiter 1230.

“ But the physicians soon perceived that the
“ vital parts were irrecoverably injured : and
“ while he lay declining and languid, accounts
“ were brought that the soldan of Cumania had
“ dared to lay siege to Cherson, a town under
“ the Count’s jurisdiction. Indignant at this in-
“ sult, yet incapable of taking the field, he sent
“ for his son ; commanded him to assemble the
“ army, and to march instantly to the relief of
“ Cherson. His son remonstrated against the
“ measure ; and urged, that their forces were
“ too few to encounter so numerous an host of
“ Turks. The father was deeply mortified to
“ find that a youth begotten by him, and the
“ heir of his Earldom, should possess a pusillani-
“ mous soul. Then rousing himself, he gave
“ orders to collect the troops ; and as soon
“ as they were drawn up in array, he was lifted
“ into a car, and proceeded at their head
“ against the enemy.

“ Before he came in sight of Cherson, some re-
“ turning scouts brought intelligence, that the
“ soldan, having heard of his advance, had sud-
“ denly raised the siege and retired. Upon this
“ the Count halted the army, and all his remain-
“ ing powers which he had so strenuously exerted
“ now failing him, he raised his trembling hands
“ to heaven, and prayed thus : “ O! most clement
“ Father, I thank thee for having exalted me to
“ high honors, and especially for this last ; that

“ even when thus changed and sinking into the
 “ grave, my enemies have fled at my approach,
 “ and have abandoned my Province. I know
 “ and acknowledge, O most gracious God! that
 “ these are thy works alone!” Having pronounced these words, he sunk down in his car in the presence of the army, and died.

This was a Paladin.

It was formerly noticed, that there is no trace of Small Pox to be found in the lives of the early Saints, because that malady had not then reached Europe. But even after it had spread through this quarter of the globe, the Saints appear to have been peculiarly negligent of Small Pox patients. However, in the year 1218, there lived in France a distinguished Female, who was entitled Saint Franca, and who wrought abundance of miracles. Among the rest *, she restored sight to a person who had been rendered blind by the Small Pox. And Saint Ivo †, also, about the year 1303, miraculously cleared off a spot from the eye of a young girl, which had been caused by a variolous pustule.

* “ *Cæcitas occasione Vayrorum exorta,*” &c. Bolland, tom. iii. Aprilis, p. 384. Act. Stæ. Franc.

† “ *Macula nata fuit in oculo puellæ post assumptam infirmitatem quæ vocatur Veyrola*”. Bolland. tom. iv. Maii, p. 572. Miracul. Sti. Ivonis.

It is likewise recorded, that Pope Urban V. * cured a patient affected with the fever of Small Pox, about the year 1364.

This being considered a miracle, is a proof of the fatality of the disease at that time. Though in the fifteenth century miracles were declining fast, yet there was a woman in France †, who had lost the sight of both her eyes from the Small Pox, that had the good fortune to stumble upon Saint Jacob Philip, who restored her vision to perfection: and another ‡ who had been blind for three years from the same cause was cured by Saint Cunera. The Lives of the Saints, compiled by Bishop Surius, and the Bollandini, which contain those facts, are now held in little reverence. But independently of medical authorities to be noticed afterwards, these scattered passages are

* “*Patiens febrem cum Picota vel Vayrola debilitans.*” Du Cangii Glossar. Picota. Miracul. MS. Urbani v. Pp. in Tabul. S. Victor. Mass.

There is great variety of spelling employed by Monastic authors.

† Joanna ob variolum, lumen amiserat oculorum, &c. Bolland. tom. vi. Maii, p. 171. Miracula B. Jacob Phillipi.

‡ “*Alteri per poccas per triennium oculi extincti fuerunt.*” Mirac. S. Cuneræ, tom. ii. Junii, p. 565. Bolland.

the only very early allusions to Small Pox, which, after a strict search, have been found out ; for no formal information upon this subject has been given by cotemporary historians.

In the fifteenth century a greater attention began to be paid to the discrimination of diseases : for Mezeray states, in 1414, the commencement of a malady of far less importance than the Small Pox. His words are, “ That
 “ a strange kind of Rheum *, named the Hoop-
 “ ing-cough, tormented all sorts of people dur-
 “ ing the months of February and March, and
 “ rendered their voices so hoarse, that the Bar,
 “ the Pulpits, and the Colleges were mute.
 “ All the old men who were seized with it
 “ died.”

The same author also notices the Small Pox for the first time, when Charles VIII. was pro-

* “ Un estrange rhûme qu'on nomme La Coquelûche tour-
 “ menta toutes sortes de personnes durant les mois de Fevrier et
 “ de Mars et leur rendit la voix si enrouée, que le Barreau, les
 “ Chaires et les Colleges en furent muets. Il causa la mort à
 “ tous les Vieillards qui en furent atteints.” Abreg. Chronol.
 de l'Hist. de France par Mezeray, tom. ii. p. 651.

The vernacular words, of Coqueluche, Hooping-cough, and Kin-cough, are more expressive and correct, than the learned names, Pertussis or Tussis convulsiva. Nosology and Chemistry have been obscured by a multitude of varying scientific nomenclatures.

ceeding, in the year 1494, on his celebrated expedition for the conquest of Naples. “ He
 “ was taken ill at the town of Asti in Piemont,
 “ confined near a month, and expected to die
 “ of the Small Pox.” This fact is confirmed
 by Corrio, Malevotti, Commynes, and even by
 Benedetti *, who was a physician in the Italian
 army at the time. Yet in contradiction to all these
 authorities, the elegant biographer of Leo X.
 writes, that “ from the extreme licentious-
 “ ness in which Charles had indulged himself,
 “ it is not however improbable, that this com-
 “ plaint was of a different nature, and that the
 “ loathsome disorder, which, within the space
 “ of a few months afterwards, began to spread
 “ itself over Italy, and was thence communi-
 “ cated to the rest of Europe, is of royal origin,
 “ and may be dated from this event †.”

Nothing less probable than these fanciful

* The testimony of Benedetti is quite decisive.

“ Finalmente il Re di Francia dallo stretto dell’Alpi, quasi
 “ cōtra l’opinion d’ogniuni, giunse in Hasti a xi di Settembre
 “ 1494. Dove havendo cambia to acre, fa soprapreso da un
 “ ardentissima febre ; et mando fuori alcuni segni, che si chia-
 “ mano epinitide ; i nostri le chiamano vaivole.” Il Fatto
 d’arme, &c. &c. Alessandro Benedetti, tradotto par L.
 Domenichi.

† The Life and Pontificate of Leo the Tenth, by William
 Roscoe, vol. i. p. 162.

conjectures of too luxuriant an imagination. That the King's malady was the Small Pox, is established by the evidence of authentic cotemporary writers. Indeed, had the eruption which affected Charles VIII. proceeded from the foul contagion alluded to, as no specific was then known, his life and expedition must have soon terminated. Nor could he, as Roscoe writes, have entered on horseback triumphantly into Rome and Naples; and have stoutly fought his way back into France, clad in the heavy iron armour of chivalry.

We have now reached the close of the Fifteenth century; after which, from the revival of literature, better information is given of historical transactions, and the effects of Small Pox and Measles, when introduced into new countries, are fully narrated. From which we may fairly deduce the effects which were produced in those darker periods, when information was defective.

As in all human affairs good and evil are intermingled; the invention of the compass, and the discovery of Columbus, which greatly augmented the scope of human knowledge, also occasioned scenes of misery which were never surpassed: among other calamities they were the means by which the contagion of the Small

Pox and Measles were extended to another hemisphere.

But this evil is not to be charged to the great and good Columbus, whose humanity prompted him always to benefit, and never to injure the countries he discovered.

This matchless Navigator descried the New World in 1492; and in 1500, he was carried back to Spain loaded with chains. In four years afterwards, with a body broken by the hardships he had undergone, and a mind wounded by the ingratitude of the Monarch he had so amply benefited, he died with composure and magnanimity.

Hispaniola, or St. Domingo, was the first settlement founded by Columbus: after he was gone, numbers of adventurers flocked thither, whose hearts were hardened by avarice and fanaticism. The safety of the Indians never entered the thoughts of these men; and it is ascertained that the Small Pox and Measles were carried to that island in the year 1517; though the individual who committed this atrocity is unknown.

The Spaniards who landed on that coast pretended to be civilized, the standard of Christ was borne before them, and they proclaimed themselves the propagators of his benevolent

doctrines. How they practised his precepts may be judged of by the consequences of their arrival.

It is computed that Hispaniola then contained a million of Indians;* in reducing them to Christianity and slavery, immense numbers were massacred by fire arms and blood hounds: when resistance ceased, the wretched Indians having excessive tasks imposed upon them, and being forced to work in the mines, were consumed with labor and famine: and the remainder of this hapless race were totally extinguished by the Measles and Small Pox.

When Ferdinand Cortes sailed from Cuba, in the year 1518, upon his expedition to Mexico, these contagions had either not yet reached Cuba, or at least no infected person was embarked. But Velasques the Governor, having

* Robertson's History of America, vol. i. p. 260. Oct. edit Herrera, Dec. 1. lib. x. c. 12.

“ Ad exiguum miseri accolæ (Hispaniolæ) deducti sunt
 “ numerum, opera quorum in auro legendo usi sunt. Ad-
 “ sumpti ab initio bellis acribus, fame multo plures, quo anno
 “ junceam radicem, quæ panem nobilium conficiebant, erue-
 “ runt; et a maico grano seminando pane populari abstinuer-
 “ unt; reliquos Variolæ, morbilli eis ignoti hactenus superiore
 “ anno 1518, qui tanquam morbosas pecudes contagioso halitu
 “ eos invaserunt.” Petri Martyr. de Orbe novo Decad. iv.
 c. 10.

taken offence at the conduct of Cortes, dispatched an armament, in 1520, under the command of Don Narvaez, whose orders were to seize Cortes, and to send him prisoner to Cuba.

Before the fleet sailed the Small Pox reached the island, and an infected Negro slave was embarked. Although the Spaniards were perfectly acquainted with the Small Pox, yet they suffered this slave, when covered with pustules, to be landed with the troops at Zempoallā, where the Indians were both ignorant of the contagious nature of the disease, and of any means of mitigating its violence.

They soon caught the infection, which spread through Mexico, and occasioned such desolation, that in a very short time three millions and a half of people were destroyed, in that kingdom alone; the Emperor Quetlavaca, brother and successor to Montezuma, was among the victims. *

And, it appears from a late communication, † of a respectable ecclesiastic, from the Caraccas,

* Mon. Ind. i. 642. Torquemada. P. Torribio de Benevent. B. Diaz. c. 124. History of America, W. Robertson, D.D. vol. iv. b. 8. and note 1.

† Vide Report to Parliament by the National Vaccine Establishment, 1813.

to the National Vaccine Establishment, that the waste of human lives in that continent, was not a transient occurrence: for in the new kingdom of Leon, several warlike nations of Indians had been almost extinguished by the Small Pox: and fifty years ago heaps of bones, like trophies of the disease, were to be seen in the fields, under the tufted oaks. And even now, if an Indian sees one of his companions attacked with the eruption, he leaves him his horse and his provisions, and flies to a great distance in the woods: so great is the horror of that malady in South America.

The reader need not be shocked with many more details of the effects of a contagion, diffused through all countries with which Europeans have commercial communication; and which appears to have been as destructive to the nations in the neighbourhood of the North pole, as to those under the line. For in the year 1707, an epidemic Small Pox * broke out in Iceland, and destroyed 16,000 persons; which amounted to more than a fourth part of the population of the island.

Greenland appears to have escaped the longest.

* Travels in the Island of Iceland, in 1810, by Sir George Stewart Mackenzie, Bart.

It was attacked with Small Pox for the first time in 1733,* which spread so fatally as almost to depopulate the country. These examples, together with the mortality which has occurred in the Russian Empire, are decisive proofs that this universal contagion is superior to the influence of climate.

It may be concluded, from the foregoing historical sketch, that the Small Pox and Measles had prevailed in China and Hindoostan from remote antiquity, probably upwards of three thousand years; yet had not extended to the more Western Nations until the middle of the sixth century. About this latter period, the above maladies reached the southern coast of Arabia, by vessels trading with India, and broke out near Mecca, during the war of the Elephant, in the year 569, immediately before the birth of Mahomet.

During the latter part of the sixth, and the whole of the seventh centuries, they were spread, by the Arabians, over the remaining countries of Asia, and all that part of Africa which is washed by the Mediterranean Sea.

In the eighth century Europe was contaminated, in consequence of the Saracens invading Spain, Sicily, Italy, and France; and the above

* Cræne's History of Greenland, vol. i. p. 356.

diseases gradually extended to the North. They had certainly reached Saxony, Switzerland, and England in the tenth, and probably in the ninth centuries. And lastly, in the beginning of the sixteenth century, twelve years after the death of Columbus, the infections were transported by the Spaniards to Hispaniola, and soon after to Mexico, and diffused speedily over that hemisphere also.

CHAPTER V.

THE VARIOUS THEORIES AND TREATMENT OF THE
SMALL POX FROM ITS APPEARANCE IN ARABIA,
TO THE FIFTEENTH CENTURY.

ALTHOUGH from an early stage of civilization, a succession of men of talents have applied their minds to the science of medicine, yet instead of a regular advancement, there has often been a retrogression in medical knowledge. This is perhaps owing to the infinity of erroneous opinions which may be entertained on every point, while only one opinion can be true. And when an error is credited, the further it is pursued, the deviation from truth becomes the wider.

But on a more enlarged view of this subject, it might be contended, that in one sense, science continues to advance, even when wandering in a false direction : since by this procedure, the mistake becomes at length quite conspicuous ; then every step is necessarily retraced, and the original error is at last rectified. This might be exemplified in all those sciences which

are insusceptible of demonstration ; and particularly in medicine, where improvements have often been effected by this circuitous route. This will be illustrated in detailing the various doctrines which have been promulgated respecting the Small Pox.

AHRON who lived at Alexandria in the reign of Heraclius, is the first author who is known to have written on the Small Pox *; he published, as has been noticed, subsequently to the year 622, the epoch of the Hegyra. He was a voluminous writer, and although his works are lost, the numerous quotations which remain in those of Rhases are proofs how highly he was esteemed in Arabia, three hundred years after his death. The paragraphs on Small Pox and Measles from Ahron's Essay, which have been selected by Rhases, must have been considered by him as the most important, and they contain the earliest notions on their nature and treatment.

The ancient Physicians were never at a loss for the causes of diseases, the humoral doctrines of Galen furnished them in abundance. Ahron picked up out of this magazine, the

* Vide page 61.

hypothesis “ of * adust blood and bile” which, he asserted, was not only the cause of the Small Pox and Measles, but also of pestilential eruptions generally.

He states “ that the signs of the Small Pox
 “ and Measles are an inflammatory fever ac-
 “ companied with pain in the head and red-
 “ ness of the eyes ; and the eruption commonly
 “ appears on the third day, but sometimes
 “ on the first or second. If the eruption
 “ appears on the third day, when the fever
 “ abates, these events are favourable ; but the

* “ Et generantur omnes (eruptiones maligni) ex malo sanguine adusto cum cholera.”

“ Signa Variolarum et blacciarum sunt a principio febris
 “ callida soda : rubedo oculorum et ut plus apparent hec
 “ in tertio die. Et possibile est quod apparent in primo
 “ aut secundo. Et de laudabilioribus signis salutis sunt cum
 “ apparent in tertio aut in tempore quo febris est lenta, et e
 “ contrario. Cum vero moventur in primo die ex vehementia
 “ febris et profunda et forti cogitatione.”

“ Aaron de salubrioribus Variolis sunt albæ et rubiæ : et de
 “ malignioribus virides et nigrae : et post has crocæ cum
 “ manifeste apparent variolæ et morbilli et febris incipit
 “ defervescere est signum salutiferum. Et illæ quæ ap-
 “ parent in furore febris sunt mortales. Et cum incipiunt
 “ apparere variolæ cavendum est a frigidis, quibus reti-
 “ nentur in interioribus, et dandus est succus feniculi et apii
 “ ut trahantur ad exteriora. Et fiat Gargarisma cum aqua
 “ decoctionis lentium, et sumach, ut nil nocivum possit ori et
 “ gutturi evenire. Et cum sunt digestæ jaceat patiens super
 “ farina risis et fumigetur cum foliis mirti olivarumque et
 “ desiccabuntur.” Lib. xviii. c. 8. Continent. Rhasis. Imp.
 Brix. 1486.

“ opposite occurrences are unfavourable. When
“ the eruption is thrown out on the first day,
“ it is owing to the vehemence of the fever,
“ and to profound and intense thinking :” ...

“ When the Small Pox pustules are white
“ and red, they are healthy ; when green and
“ black, malignant : and if after a time, the
“ eruption of Small Pox and Measles changes
“ to a *saffron* colour, and the fever moderates,
“ good hopes may be entertained : but if these
“ eruptions appear during a frenzy fever, they
“ are fatal.

“ As soon as Small Pox pustules begin to
“ shew themselves, it is necessary to beware of
“ refrigerants ; by which they would be retained
“ on the internal organs. The juice of fennel
“ and parsley is then to be exhibited to expel
“ them outwardly. And a gargle is to be used,
“ composed of a decoction of lentiles and su-
“ mach, to preserve the mouth and throat from
“ any mischief. When the pustules have sup-
“ purated, the patient is to lie upon flour
“ of rice, and be fumigated with myrtle and
“ olive leaves, which will dry them.”

The above quotations cannot be supposed to contain the whole, although probably they exhibit the principal notions which Ahron taught, concerning the Small Pox and Measles : and give an outline both of his theory and treatment.

When these maladies first appeared, it was impossible for physicians to divine their correctives; and in this state of ignorance, they would have acted wisely to have left the diseases to nature, to have observed them closely, and not pretended to direct remedies, until they had discovered under what circumstances the symptoms became mild, and the crisis was usually favorable. But such inactive practice would neither have been assented to by the sick, nor is it conformable to the pride of learning. The fears and sufferings of patients prompt them to urge that something may be tried; and physicians are apt to be too confident in their knowledge to remain passive observers, even in unknown diseases.

In Small Pox and Measles, experience and observation, the only real sources of knowledge were then totally wanting: yet physicians had the vanity to believe that they could discover the causes, the nature, and the method of curing these new diseases by intellectual meditation.

Accordingly, Ahron, or one of his predecessors, invented the above hypothesis of adust blood and bile, of corrupted humors, of refrigerants which could retain pustules upon internal parts, and of warm medicines which could expel them externally, and cure them. Such illusive reasoning might have been a subject for ridicule.

in the natural sciences, but in medicine, every indulgence of the fancy is replete with danger. The error to beware of refrigerants, which was founded on the above hypothetical ideas continued to be inculcated, and usually with augmented earnestness in succeeding ages. It prevailed for a thousand years, and has destroyed millions.

The next author of whom there are any remains on Small Pox is GEORGE BACHTISHUA, who was physician to the magnificent caliph Almansor, towards the end of the eighth century.

He asserted, Heaven knows why! "that *
 " Measles proceeded from blood mixed with a
 " large proportion of bile: and that Small Pox
 " were formed of very gross and moist blood."
 These opinions are quoted by Rhases, with great respect, as well as the advice he gives to refrain from salt and vinegar. Then George advances beyond Ahron, and declares, " that
 " things which are very cold are mortal."

JOHN, the Son of MESSUE lived towards the end of the eighth, and the beginning of the ninth century. He was physician to the caliph

* " Ait Georgius, blactiæ sunt ex sanguine permixto multa
 " cholera; et Variolæ ex sanguine grasso multæ humiditatis."
 Contin. Rhaz. loc. cit.

for his learn-

When these impossible for in the quotation
 rcetives; and must not deviate from
 would have been taught.
 to nature, when the Measles appear
 not preter spread universally over the
 discover the belly becomes inactive,
 tons heard, and sounding like a drum
 voral. With the hand, these are bad
 have. He likewise said, "the Small
 fe accompanied with continued fever,
 redness of the eyes, and face, agitation
 the features, and startings during sleep:
 the eyes ought then to be bathed with a
 collyrium of rose and sumach water, which
 may preserve them from injury." Other re-
 cepts are also given by Messue for the preserva-
 tion of the eyes, and liniments for the body
 generally.

He cautions particularly against exhibiting
 any opening medicine, after the seventh day of

* "Filius Messue, cum vides blactias coloris fusci et sunt
 " universaliter per totum corpus, et ample et murmurat et pig-
 " rescit et ejus venter est inflatus qui manibus re percussus sonat
 " ad modum tympani, est malum. Et dixit (Messue) vario-
 " larum sunt febris continua, rubedo oculorum et faciei agita-
 " tio et repentinus motus in somno, et sunt collirizandi oculi ex
 " aqua rosacea in qua sumach infundatur, quia preservat ocu-
 " los a nocumento." Cont. Rhasis. lib. xviii. c. 8.

the malady, and advises in winter a fire of tamarisk wood and vine stalks.

As the scars and pitts from Small Pox were quite a new effect of disease, and one of a most mortifying kind to Asiatic females, much exertion was made by the Arabian doctors to remove this insupportable vexation. The ointments, liniments, and washes which were invented for this purpose are innumerable: they were often composed of the most heterogeneous ingredients, and each had their partizans, though all were inefficacious; except those which by their irritating qualities augmented the deformity. Among other articles in these receipts, there were melon seeds, almonds, many vegetable juices and powders, salt, camphor, and the fat of an ass. Messue recommended a liniment, which Rhases says was an admirable one; it consisted of calcined egg-shells, burnt bones, and half a dozen other powders mixed up in barley-water. And a physician named Abdus, employed Ox dung, moistened with common water. It is painful to reflect, that many an oriental beauty, deceived with fallacious medical promises, has submitted to have her face and bosom daubed with this nauseous cosmetic.

Of all these Arabian authors, only a few fragments have escaped the ravages of the

Barbarians, and of time. But the works of ISAAC THE ISRAELITE, the father of Arabian physic, remain. No life of this venerable personage has yet been published, though probably, some account of him might be found in collections of Arabian manuscripts, especially among that immense heap which are preserved in the Escorial.

The confusion of oriental names, is often embarrassing, and Dr. Freind * has made an odd conjecture, that Isaac the Jew, is the same individual as Honain the Christian. The latter †, indeed, was sometimes stiled Honain, the son of Isaac, which Isaac was an apothecary : and Honain ‡ had also a son named Ishac or Isaac. Yet it is very clear, that these were all distinct persons from Isaac the Jew. For Honain was a declared Christian, and was born at the town of Hira, near the Euphrates ; a list of his works, as well as those of his son, are enumerated in his Life, by Osaiba § : they are very numerous, and con-

* De Purgantibus Jo. Freind. tom. ii. p.60. Lug. Bat.

† “ Porro imperante Al Mota-wacelo claruit Honain Ebn
“ Isaac Medicus Christianus Ebadiensis.”

“ Fuit autem Isaac Honaini pater pharmacopola in urbe
“ Hira.” Dynas. Abul-pharag. p. 171.

‡ Biblioth. Oriental. Herbelot. Vide Honain. Aldalrahman
Honain ben Ishak, ben Honain.

§ The Lives of the Arabian Physicians by Ibn Abi Osaiba
in Arabic. MSS. Bodleian.

sist of translations from Hippocrates and Galen, as well as of many original compositions, yet none of the works of Isaac the Jew are among the number. Rhases *, who frequently quotes both, evidently discriminates them : he names the one Isaac, or the Jew, and the other, Onen, transmuted by his translator, from Honain. As Isaac is not noticed by Abulpharagius, he probably neither resided at Bagdad, nor at Alexandria ; and though he wrote in Arabic, the language of the learned, he perhaps was a citizen of Jerusalem. The exact period in which he lived, cannot be determined, but from the order in which he is quoted by Hali Abbas, and others, he appears to have flourished in the ninth century : and Andrew Turrino, the Latin translator of his works, gives him the splendid title of Isaac the Israelite †, the adopted son of Salomon, King of Arabia.

It appears from his writings, that he was a learned man, conversant with the works of

* Continen. Rhasis. lib. iii. cap. 3. “ De dolore gingivæ
 “ *Onen* dixit, quod si dolor fuerit in gingiva et per tactum
 “ patiens sensit dolorem in ea non est eradicundus dens aliquis :
 “ dummodo fuerit in hujusmodi dispositione et dolor non fuerit
 “ in augmento. *Onen* is twice quoted in this chapter, and
Isaacus Judeus passim.

† *Isaaci Israeliti Salomonis Arabiæ Regis filii adoptivi
 opera omnia* Latin. reduct. Andr. Turrin. Piscien. Lugd. 1516.

Plato, Aristotle, and the Greek physicians. Besides several lesser treatises, he wrote a large system of the Theory and Practice of Medicine, which he calls Pantegnum, and an Abridgement termed Viaticum, all of which are extant.

He commences the Pantegnum, by advising every medical scholar, with much feeling, and with some eloquence, to honor and serve his master with as much reverence as his father. And he counsels the master to instruct the pupil whom he thinks deserving of being brought up to medicine, without accepting from him any emolument, or pecuniary compensation: and should he prove unworthy of the honor intended him, he is immediately to be dismissed and excluded from the profession; which Isaac considered as an ample punishment for the most flagrant misconduct. He then points out the duties of physicians, which are to labour diligently to relieve the sufferings of the sick, and to restore them, if possible, to health, without being prompted even by the expectation of a reward. They ought to tend with equal assiduity the rich and the poor, the vulgar and the noble: and when visiting the sick, they should guard their hearts against the attractions of the wives, daughters, and maids, to which they must inevitably be exposed. On every

occasion they should act with humanity and purity; and found their hopes of success on divine aid. The moral precepts of this Jew, are almost supernatural; and it may be doubted, whether they were ever practised by one Mahometan, Christian, or Jewish physician: in recompence, his medical theories were execrable, which gained him abundance of converts.

Isaac was thoroughly imbued with Galen's theory of the occasional prevalence of blood, phlegm, black and yellow bile *, and he divided the Small Pox into four kinds; each of which proceeded, as he supposed, from one of these humours. But as Galen's system did not account for the universal disposition to this malady, Isaac has written a chapter upon *the "Fever of the Small Pox, which happens to almost all persons †."* A title which shews that this malady was then extended to the utmost degree through the Mahometan empire. It is extraordinary, that the physicians of those days had no idea that the Small Pox and

* "Sed Variolæ quatuor modis sunt: aut de puro sanguine, aut phlegmatico, aut cholerico, aut melancholico."

† "De Febre Variolarum quæ fere omnibus accidit." Liber Februm, cap. v. Isaac. Israel.

Measles were new distempers : they believed, on the contrary, that they had existed in all ages, and in all countries, and that almost every human creature must have them. In fine, that these maladies were a natural operation, like teething, or child-bearing. Having commenced with this false opinion, and being convinced of the doctrine of morbid humours ; they next sought for some cause to account for the bodies of the sweetest and healthiest children, being all contaminated with the most gross and distempered fluids. Isaac racked his imagination to discover the source of this connate evil ; and at length invented a train of additional hypotheses, which he fashioned as he pleased to explain every symptom.

There was a notion prevalent from time immemorial of there being something highly noxious in the blood periodically evacuated. Pliny the Elder * was strongly prepossessed with this

* “ Sed nihil facile reperiatur mulierum profluvio magis
 “ monstrificum. Acescunt superventu musta, sterilescent
 “ tactæ fruges, moriuntur insita, exuruntur hortorum ger-
 “ mina, et fructus arborum, quibus insedere, desidunt ; spe-
 “ culorum fulgor aspectu ipso hebitatur, acies ferri præstrin-
 “ gitur eborisque nitor : alvei apum emoriuntur : æs etiam
 “ ac ferrum rubigo protinus corripit.” &c. &c. C. Plinii, Nat.
 Hist. lib. vii. cap. 15.

opinion, and traces of its being considered as a pollution are to be found even in the *Old Testament*. Perhaps this Jew borrowed thence the original thought, and by perverting the sense framed his strange theory. He supposed that the foetus in the womb was tainted with some portion of this noxious female fluid; which, being unfit for nutrition, was thrown by nature into certain places near the skin, lest it should injure the principal organs. After the birth of the child, the morbid humour remained quiet, until it was set in commotion by some external cause, such as bad food, or corrupt air, when it was expelled to the surface of the body, in the form of Small Pox, which he considered to be a fortunate ejection.

Thus did this uninspired Jew cast the reproach of the Small Pox, like another original sin, upon women. And perhaps it was owing to the Mahometans not entertaining due respect towards the sex that these indelicate hypotheses were admitted by them. But it is astonishing, that they were also credited under various modifications, by many of the most celebrated Christian physicians, down to the 18th century.

Isaac was not led by his theory to vary in any considerable degree from the treatment recommended by Ahron. He says, "The

“ Small Pox * is to be cured by warm and
 “ moist remedies, which will evolve and expel
 “ the morbid matter. But beware of a cold
 “ medicine, which might shut up and congeal
 “ the humours.” The particular drugs which
 he notices, are nearly the same which have
 been mentioned before, with the addition of an
 Arabian confection, composed of the juice of
 figs, of tragacanth, fennel, and saffron.

Some uncertainty has also prevailed respecting the time in which SERAPION † lived; but, from his own quotations, from those of Rhases, and the authority of Osaiba, it is quite certain that it was towards the latter end of the ninth century. He wrote a medical book in the Arabian language, which was much esteemed, and has been translated into Latin.

This author is censured by Hali Abbas ‡, for not having fully discriminated the Small Pox. He first classes it among imposthumes; in

* “ Variolæ sunt medicandæ cum calidis et humidis rebus,
 “ quibus materiam exsolvant et extrinsecus expellant. Cave
 “ autem frigidam medicinam quæ humores claudat et con-
 “ gelat.” Lib. Panteg. Isaac. Israel. Practice. cap. xix.

† Serapion quotes Messue, who lived at Bagdad A.D. 795, (Abul-pharag.) and is quoted by Rhases, who lived A.D. 900.

‡ Regalis Dispositio Hali filii Abbas a Stephano Latine ex Arab. Lingua redacta. Vide Introduction.

treating of which there is a section on phlegmon*, the erysipelas of the head, the Persian fire, and the Small Pox.

He conceived that all these diseases proceeded from the same cause, and were of a similar nature ; he recommends, as the “ chief indication in the cure of Small Pox, first to evacuate the gross melancholic blood which had occasioned it : a complicated treatment was afterwards requisite, for although the inflammation of the skin demanded refrigerating and extinguishing remedies, yet they ought not to be used, on account of the malignant disposition of the humour, which might be checked, and injure the internal parts of the body.” Serapion was evidently much em-

* De Phlegmone et Almessere †, et igne Persico, et Variolis.

“ Intentio in curatione Variolarum in primis est evacuatio illius sanguinis grossi, melancholici, à quo generatur : et post illud oportet ut administretur curatio composita, quoniam inflammatio quæ accidit in membro indiget medicinis infrigérantibus, extinguentibus. Et propter grossitudinem humoris et malitiam suæ dispositionis, secundum quam est, non oportet ut fiat illud, ut non infrigidetur materia, et noceat membris quæ sunt in interioribus corporis.” Lib. Joan. f. Serap.

† Hali Abbas explains this word.

“ Cum ergo in capite aut facie Mesera vocatur, quod est nimis rubor et manifestus cuius signa sunt in facie rubor gravis humor capitis cum omnibus qui in eo sunt dolor et percussio.” Lib. octavus. Theoric. Hali. p. 96.

harrassed by this dilemma, and prudently searched for safe remedies.

It is singular that this author afterwards arranges Small Pox among fevers, * where he has a chapter on the cure of the fever occasioned by the Small Pox.

“ Nothing,” he says, “ contributes more to
 “ the cure of this malady than bleeding : but if
 “ infancy or timidity prevent the opening of
 “ a vein, cupping should be employed. The
 “ eyes are to be guarded as much as possible,
 “ lest they should be attacked with pustules :
 “ they are to be bathed continually with rose
 “ and sumach water.” A variety of other receipts are given, copied or altered from Ahron and Messue.

Oil of violets, thickened with wax, is directed to anoint the pustules about the nose ; this was a more agreeable application than the poultice prescribed by Abdus.

* “ De cura febris causatæ a Variolis.

“ Si hæc febris fuerit propter causam Variolarum et virtus
 “ et ætas consentit, tunc non est aliquid magis juvatium
 “ quam phlebotomia venæ. Et si aliquid prohibet phleboto-
 “ miam, tunc oportet ut administrentur ventosæ. Et custodi
 “ oculos ita ut non egrediantur in eis variolæ, seu ulcera vari-
 “ olarum, et distilla in eis ambobus assidue aquam rosatum et
 “ aquam sumach.” Liber. Joan. filii Serapionis noviter ex
Arab. in Latin. trad. per And. Alpag. Bel. Venet. 1558.

Serapion also particularized the diet, which was to consist of decoctions of barley, prunes, tamarinds, cassia, lentiles and fruit. After the seventh day all laxatives are, however, to be omitted, and gentle astringents, if requisite, are to be given. A fire also is to be kindled in winter.

RHASES was so named from the town of Rhei, in Chorassan, in which he was born. He flourished at Bagdad in the end of the 9th, and in the beginning of the 10th centuries; uniting to the reputation of a skilful physician, a knowledge of philosophy, astronomy, and music; and gained, by his acquirements, the title of Al-mansor, or the Great.

He was undoubtedly an accomplished Arab, and had the good taste to reject the theory of Isaac, but the bad judgment to invent one of his own.

Although the Koran prohibited wine, under the penalty of the delinquent's being deprived of the posthumous recreation of black eyed Houris; yet Rhases * appears to have contemplated attentively the fermentation of grape juice. The effervescence which arises first,

* De Variolis et Morbillis. Rhases.

the sparkling liquor which next ensues, and the acid dregs which are ultimately produced, had played so powerfully upon his imagination, as to convince him, that similar processes took place in the human blood.

He supposed, that the blood of infants was like the sweet juice of new pressed grapes, which soon begins to work and fret ; that in youth it was in a state of ebullition and full of spirit ; in manhood it became strong and settled ; and in old age weak and acid. Having established these hypotheses, he next supposed that the Small Pox and Measles were the natural consequence of the vapours which arose from the effervescing blood.

By all these assumptions, Rhases explained why almost all persons had the Small Pox and Measles once, why they rarely had them oftener, and why these distempers usually took place at an early age. And whenever a difficulty arose, it was suppressed by a new hypothesis : for the blood in his hands is both so plastic and pertinacious, as to throw out the exact varieties of Small Pox and Measles which occur, and no others.

No estimate should be made of the capacities of the old physicians by their theories : those of Galen are not a whit better, than the chimeras of Ahron, Isaac, or Rhases. An improved description of the different kinds of Small Pox by

the latter, shews however an advancement in knowledge.

He first * remarked that the Small Pox may occur twice or thrice; and the havoc occasioned by the disease prompted him to try additional remedies, and to endeavour to adapt the treatment to the various stages of the distemper.

When the Small Pox or Measles are apprehended, Rhases advised a preparatory treatment, consisting of bleeding or cupping, bathing in cold water, drinking iced water, and living principally on broths, vegetables, and acid fruits. Wine, beef, mutton, honey, sweets, and high seasoned aliments, are prohibited, and a multitude of minute dietetic directions founded on the prevalent theoretic notions are added.

Several receipts for cooling the blood are also directed at this period; that which is most praised, is an oxymel compounded of vinegar, and some native vegetable acids, boiled up with sugar and other ingredients.

When the fever commences, two plans of treatment are mentioned; and it is said that a mistake in the choice may be of very danger-

* “ Et possibilis est quod (Variolæ) accidunt bis vel ter.”
Contin. Rhasis. lib. xviii. cap. 8.

ous consequence ; yet the directions for avoiding a mistake are not clear.

The one plan is to exhibit opium, hemlock, or some other narcotic, which he conceived had the property of congealing the blood, and checking ebullition. But in the employment of these medicines, he thought there was a risk of their extinguishing too much the natural heat.

The other plan which he seems generally to prefer, is to bleed copiously, to persevere in cooling medicines, and to give abundance of cold water. But should these remedies not check the fever, the narcotics are then to be had recourse to.

As soon however as the eruption is expected, the treatment is to be totally changed, and nature is to be aided in expelling the humours to the skin. The patient is now to be kept in a room of a moderate temperature, his body is to be rubbed all over, well wrapped up in cloths, and all his person, except his face, is to be exposed occasionally to the vapour of hot water. A little cold water for drink is then to be given him from time to time to provoke a sweat.

There is a second embarrassment in the instructions at this period, sometimes narcotics are directed, which are called extinguishing medicines : and on other occasions the cooling re-

medies are still to be continued till about the fifth day : when such remedies are prescribed, as promote the eruption. These are stated to be warm water, warm infusions of fennel or smallage seeds, decoctions of figs and raisins, and similar drinks.

Bleeding is directed occasionally in the course of the disease, as the most important remedy : and as there is a general tendency to a looseness, aperients are usually to be avoided, especially in the Measles. But sometimes a mild laxative is requisite, though astringents are oftener necessary. Those used by Rhases were not very potent.

There is also recommended a complicated management of the pustules. The limbs are to be bathed with various decoctions ; if the pustules upon them are large, they are to be opened ; and if the feet are in pain, they are to be bathed, fomented, and anointed with oils.

Fomentations and fumigations are likewise directed for the body, and oils with salt and alum to be applied. On some occasions, the patient is to lie on a bed strewed with flour, or with rose leaves ; on other occasions, iris leaves are to be placed under him, and the body is to be sprinkled with an aromatic powder, composed of aloes, frankincense, and other gums. These and many other applications are chiefly intended to prevent pitting : but there soon follows a

number of receipts to remove the pitts, when they had not been prevented.

The anxiety to preserve the eyes, likewise prompted many injudicious measures. In addition to rose and sumach water recommended by Ahron, Rhases advises collyria made of infusions of galls, the juice of unripe grapes, and other ingredients. But as opacities in the cornea and total blindness often occurred, a most numerous list of medicines are then given, all possessed of the virtues of deterging the eye and removing specks. This illustrates the remark of Celsus *, “ that the greater an evil “ is, and the less easily remedied, the more “ things are tried, and with various effects.”

The attention paid by Rhases to every symptom, and his zeal to relieve them are conspicuous: but unfortunately every remedy was founded upon imaginary doctrines. His perseverance in recommending cold bathing at the beginning of Measles, and copious bleeding during the confluent Small Pox, are proofs of a mind prepossessed with hypotheses.

In the year 980 HALI ABBAS, of the sacred

* “ Credo autem, quo pejus id malum est, minusque facile “ discutitur, eo plura esse tentata, quæ in personis varie re- “ sponderunt.” Celsus, lib. v. c. 19.

order of the Magi, published a complete system of medicine, named the * Regal Disposition. This was long considered as a master-piece of Arabian physic, and is dedicated, with eastern pomp to the caliph, Adhad Eddoulat. There is a propriety in this royal dedication, from the peculiar encouragement given to medicine by Arabian monarchs; under whom physicians enjoyed an extraordinary degree of consideration; which they appear to have merited from surpassing almost all other subjects in literature.

The lately invented theory of the Small Pox by Rhases, is totally disregarded by Hali, who reverts to that of Isaac, and vainly strives to correct its defects. But his ingenuity could only glean from Galen, or invent a few additional suppositions, to smooth unsurmountable objections.

This Magus pronounced, † that every foetus was nourished by menstrual blood, expelled from the liver through the veins to the womb: (but Harvey has since changed this course of the blood).

Hali next declared, that the sanguineous, choleric, phlegmatic, and melancholic humours;

* Liber Regalis completus Artis Medicinæ a Stephano Philos. discip. ex Arab. lingua in Latin. red. A. D. 1492. Aut Regalis Dispositio Hali filii Abbas, &c. Named, by the Saracens Maleki.

† Lib. citat. Theor. lib. viii. c. 14.

were all jumbled together in the blood of women; but that nature nourished the infant with the best portion of the compound, leaving the rest in the membranes of the womb and in the veins. Part of this was stolen from Hippocrates, who had said long before, and had better never have said it, “that the foetus draws to itself the “sweetest part of the blood*.” Then Hali, in conformity to the notions of the Jew, imagined that the milk also was formed of the same species of blood which had before nourished the foetus: but that the sucking infant was so judicious, as to apply the best portion only for its growth and sustenance, while the dregs remained quietly in its body, until a commotion ensued, from some accidental cause: when that occurred these dregs were immediately thrown outwards, and appeared on the skin, in the form of Measles or Small Pox.

All this is an amplification, and, therefore, a deterioration of the Jew’s system; but Hali made an approach to the discovery of contagion; for he observes, that one of the accidental causes which excited the movement of the distempered humours to the skin, was the being in the same place with persons affected with Small

* — “Quod enim in sanguine dulcissimum est (Foetus) ad sese attrahit.” Hippoc. et Galen. Oper. tom. v. p. 322.

Pox, or the breathing air contaminated with the pestilential vapour of Small Pox pustules.

Hali continued, like former authors, in the persuasion, that Small Pox and Measles were only modifications of the same malady ; but he is the first that mentions a cough as one of the symptoms; to alleviate which, several demulcent mixtures are recommended. The treatment, in other respects, is almost the same which has been before detailed ; and he specifies that all evacuations are to be guarded against after the seventh day, especially in the Measles. And as an open state of the bowels is dangerous, he gives receipts for many astringent mixtures, of spodium, chalk, gum arabic, alum, galls, and other drugs.

In winter he advised that there should be fires of wood, in sight of the patient ; and, in order to remove * the livid marks left by pustules, it is recommended to puncture them, and to rub the punctures with an ointment containing salt.

How singular ! that almost every attempt made by these learned men to do good, must have done mischief. It was ages before it became established practice to leave the pustules to themselves : for to do nothing is frequently

* De Ulcerum Variolarum macularum medela et livoris. Practice, lib. iv. c. 5. Regal. Disp. Hali Abbas.

the last improvement made by physicians ; and one which patients very rarely can be induced to acquiesce in.

The next distinguished physician was the Divine AVICENNA ; for the doctors, as well as the sovereigns of the East, acquired most flattering titles : and so great was his fame, that Spain, Egypt, Macedon, and Persia, have all claimed the honor of his birth ; while his works have been glossed and perplexed by a hundred commentators.

But according to the most authentic writers *, he was born in the year of Christ 992, at Bouchara, in Chorassan ; a country which produced many celebrated physicians. His capacity and acquirements were considered as prodigious ; indeed his application to philosophy was so intense, that he was suspected, by orthodox Mussulmen, of inclining to impiety. And it is recorded that his extraordinary medical sagacity was first shewn in the case of a nephew of Cabus, sultan of Georgia.

This young prince laboured under a dangerous and unknown disease ; when Avicenna, like Erasistratus, physician to Seleucus, discovered that his patient was in love. From the diffusion

* Herbelot Biblioth. Orientat. Article Siha. J. Freind, M. D. Hist. Medicin. states that Avicenna was born 980.

of knowledge in the present times, a reputation for medical skill is less easily acquired. For many an ancient nurse, nay sometimes ladies' youthful maids, have sufficient shrewdness to detect the symptoms of this malady, even when shrouded with the thickest veils assumed by virgin modesty. Nor are they ignorant of the infallible cure prescribed by Avicenna; which was only to deliver the guilty cause into the immediate possession of the languishing prince.

This physician travelled much, and acquired a high reputation in many cities of Asia, especially in Ispahan. He was there consulted by the Sultan Magdeddulat, who was subject to fits of melancholy: and his advice and conversation were so agreeable to the Sultan, that he appointed him to be both his physician and his prime vizier. Avicenna was thus elevated to the highest office of the state; which perhaps never happened to any other physician; though many have been more deserving. But there is an aptitude in Monarchs to chuse ill, and the measures of this medical Minister were so injudicious, that he was quickly deposed. In private life, his conduct was neither regulated by philosophic temperance, nor by professional decorum: for he is accused of having been both a drunkard and a profligate; and of having contracted many maladies from these

vices. The latter years of his life were wretched: he was compelled frequently to change the place of his residence; and though his corporeal powers* were at first as remarkable as his genius; yet he wore out his constitution, and died at the age of fifty-eight.

As the canons of Medicine by Avicenna remain, the opportunity is afforded of judging whether he really merited the extraordinary reputation he once possessed. And when this book is compared with works of the same age, it will be found to sustain the comparison well. But he had imbibed the opinion of the ancients, that the secrets of nature might be penetrated by meditation; and therefore his uncommon ingenuity often carried him farther into error. His subtlety sometimes tortures the attention. For example †, his division of pulses into nine species, and their similitude to nine corresponding musical rhythms; with the definitions of the eurhythm, the pararhythm,

* “ Doctor iste omnibus corporis facultatibus pollebat, at
 “ ea quæ venerem spectat è potentiis concupiscibilibus maxime
 “ prævalebat: cui multum indulgit, adeo ut temperamento
 “ ipsius noxam inferret.” Abulpharag. Histor. Dynast.
 Pocock. p. 232.

† Princip. Avicennæ, lib. prim. Theor. Prim. Caput De
 Pulsu, &c.

the heterorhythm, and the ecrhythm pulses, are of unscrutable profundity. One instance of his practice shall also be given, to shew the absurdities which able men fall into, who trust to abstract speculations.

Avicenna advises, when an infant is newly born, that after it is washed, the whole body should be sprinkled with a powder composed of salt, blood-stone, zedoary, sumach, fenugreek, and origanum : and this harsh application is recommended from tenderness to the infant, to harden the delicate skin, and to prevent its being injured by rough substances. *

Upon the subject of Small Pox and Measles, he commits abundance of mistakes, from indulging his fancy ; and makes several new and useful remarks from employing observation.

The causes of these diseases, and of pestilential fevers, are enumerated in the same Chapter. He adopts both the theories of Isaac and Rhases, and adds to them a hypothetical putrefaction ; and thus multiplies the causes of Small

* Sed prius toti corpori sale modicè insperso, quò cutis infantis densior, solidiorque reddatur Efficacius tamen præsidium erit, si sali admisceatur lapis hæmatites, costus, rhus, fœnugrecum, et origanum." Princip. Avicennæ, lib. primus, sect. tert. Doct. prim. Capit. De Infantis recent. nati educat.

Pox and Measles, by accumulating whatever he conceived was productive of the worst humours : thus the theory of these Diseases, by every complication, grew continually worse.

But Avicenna greatly improved their description by several important additions. He noticed that both diseases * were highly contagious, and he described them separately.

He began the best distinction of Small Pox, by observing, that when the pustules were white, few, and large, they were favourable : but on the other hand †, when they were continued into each other, they were malignant. He noticed the occasional appearance of bloody urine, and hardly a symptom is omitted. He also accords with Rhases ‡, in thinking that the same persons are sometimes attacked with Small Pox twice.

In discriminating the Measles, he guessed that they were a bilious Small Pox ; but ob-

* “ Et variolæ quidem et morbillus sunt de summa ægritudinum contagiosarum.” Avicen. Liber Canon. lib. iv. Fen. i. cap. 6.

† “ Nam illæ quæ continuantur ad invicem, ita ut continentur in frusto magno carnis habentes costas aut rotundam formam sunt malæ.”

‡ “ Et multoties quidem variolatur homo duabus vicibus, quando aggregatur materia ad expulsionem duabus vicibus.”

served most justly that in them more tears flow, and that the difficulty of breathing and inflammation are much greater.

The same treatment is however directed for both maladies; and though there are many receipts, yet the general plan is nearly the same with that of Rhases. Bleeding is directed at the commencement; but, except in very plethoric habits, not after the second or third day. He had probably observed, that those who were bled towards the decline of confluent Small Pox, never recovered.

To relieve the eyes, he advises sometimes opening the nasal vein.

He cautions against cooling the body, and advises sweating to be encouraged by warm coverings, and a variety of decoctions of those plants which were considered as expellers of the morbid humours. Indeed, he specifies a number of internal medicines for every symptom, and of external applications to preserve the eyes, and to smooth the skin: most of them were inefficacious, if not injurious; for the knowledge of the real action of medicines had made little progress at that period. One instruction must not be passed over; he ordered that the pustules on the seventh day, when matured, should be opened with golden

needles *. For the most learned man of that age believed, that gold possessed a milder wounding property than steel.

As Arabian literature was diffused through all the conquered countries, it of course extended into Spain; where cotemporary with Avicenna, and outliving him, flourished AVENZOAR.

This physician was born at Seville, at that time the residence of a caliph; and he acquired by his learning and virtues, the surname of the wise and the illustrious.

He has left a work named Theizer, which contains many improvements in medicine, surgery, and pharmacy, and is a respectable specimen of the state of medical knowledge in Spain.

But with regard to Small Pox, which was then a common disease in that country, he added nothing; but has chiefly copied the theory and practice of Isaac; yet the extraordinary aversion which he expresses for honey was probably borrowed from Rhases: who

* “ Quando egrediuntur Variolæ cum complimento et per-
 “ transit septima, et apparet in eo maturatio, tunc necesse est
 “ ut rumpantur cum facilitate cum acubus de auro, et au-
 “ feratur humiditas cum cotto.” Avicen. lib. iv. Fen. i.
 cap. 10.

prohibited honey, and all sweets, as contributing to vinous fermentation, his supposed cause of Small Pox.

Though Avenzoar maintained a different theory, he retained this prohibition, which he founded upon experience : for he taught, as most teachers have done, that experience ought to be the guide of medical practice. The rule is just, but the application is so difficult, that bad as well as good practice is equally founded upon this deceitful guide. He states “ that he caught
“ the Small Pox when young; and his father being
“ absent, some inconsiderate person advised
“ him to eat honey ; the consequence was, that
“ the symptoms became so violent, that he only
“ escaped death by a miracle. *

Might not Avenzoar have concluded with equal justness, that the honey preserved him from the fatal consequences of the disease ? Erroneous practice is usually founded upon partial experience, and good practice is the result of accurate observations on general experience.

* “ cum essem parvus habui variolas : et pater meus
“ non erat mecum, et consilio quorundam capi mel, et ex illa
“ angustia et labore et fortitudine ægritudinis quam habui
“ mirum fuit quod evasi : sed semper in toto tempore vitæ meæ
“ fui memoratus de melle.” Abimeronis Abyuzeahar. Liber
Theizir. lib. ii. tract 7. c. 3. Venet. 1553.

may be considered as
 literature; for al-
 distinguished names occurred in
 none equalled the fame of
 as this period the Mahometans
 Christians in learning; in fact
 then, in comparison with the
 barbarians. It is also singular,
 who commenced the revival
 learning in Italy, was an African.

ALFARABIVS lived in the latter end of the
 century. He was born at Carthage,
 not educated in Africa; which, from
 unhappy governments that have ever op-
 erated this quarter of the globe, with the ex-
 ception of Egypt, has added nothing to the
 stock of human knowledge. This physician
 travelled at an early period of life into Asia,
 and studied at Babylon and Bagdad, where
 he acquired a thorough knowledge of the Ara-
 bian writers, and also attained the Greek and
 Latin languages. He then returned to his na-
 tive country; but his life being there endangered,
 he fled to Apulia, where he was well received.
 For as this African far surpassed any Italian of
 those days in learning, Robert Guiscard, the
 Norman, who had seized the government of
 that country, appointed him his secretary. Af-

terwards, his mind becoming warped with superstition, he entered into the monastic order of St. Benedict; but, in the intervals of devotion, he translated and composed many books on medicine. He was tempted by the ignorance of the Italians to impose upon them a translation of the Pantegnum of Isaac, as an original work of his own; for which attempt he has been stigmatized by Andreas Turrino.*

He wrote in the Latin language, and the words Variolæ and Morbilli are used by him as common terms; but it is superfluous to repeat his notions of these diseases, as they were copied from the Arabian masters. One disgusting essay was certainly an original composition, and evinces the pitiable condition of the science of medicine then in Italy. It appears from it, that many Italians were wont to complain to this monk, of a frigidity of temperament, which is not often owned here to lay doctors; and he recommends, as he says, from experience, a number of most irrational remedies. Among other receipts, to warm those who are cold to the influence of beauty, he gravely advises

* “ Liber Pantegni Isaaci Israeliti filii adoptivi Salomonis
“ regis Arabiæ quem Constantinus Africanus Monachus Mon-
“ tis Cassinensis sibi vindicavit.” Latine redact. Andrea Tu-
rino Piscien.

them, to swallow a mixture of the brains of cock sparrows, stewed in the rank fat of the loins of a he-goat. *

Yet this man was the ornament of the celebrated school of Salernum, which is usually considered as the first that was established in Europe. And it is to this gross African that Europe owes the revival of Grecian medical knowledge, and the first acquaintance with Arabian physic.

No considerable medical author arose in the twelfth century, except AVERRHÖES, who was a Spanish Moor, and became chief judge in Mauritania. He was a man of considerable learning, who both translated the works of Aristotle, and commented on them: he also wrote a work on medicine, which he named *Colliget*. But, as he never practised physic, his opinions are either borrowed from his predecessors, or are mere speculations. One example shall be given. He

* “ *Dicimus quæ experti sumus*
 “ *Aliud medicamen quod accipitur ante coitum, quia mirabi-*
 “ *liter stimulat. Accipe cerebella 30 passerum masculorum, et*
 “ *solves diutissime in catino vitreo, et æqualiter accipe de sevo*
 “ *quod est circa renes hirci statim interfecti, et solvatur ad ig-*
 “ *nem: cui addantur cerebella, superaddatur etiam mel quan-*
 “ *tum sufficit, et patella commisceatur, et coquatur donec*
 “ *indurescat, et fac pilulas in modum avellanæ, et da unam*
 “ *ante coitum.*” *De Coitu liber, Constantini Africani Opera.*

properties of substances greatly
 their colour. The white colour
 refrigerant, and "that all* red
 from the fiery particles with
 manifestly abounded." These
 probably suggested by a chapter of
 which the hot and cold qualities
 with reference to their colour,
 with unintelligible, metaphysical
 Whether these ideas were frivolous or
 they became, in after times, the
 of a peculiar practice in Small Pox
 which is first mentioned in the
 to the works of JOHN MESSUE, of

compilation by several Italian phy-
 written at the close of the 13th or
 of the 14th century; it is almost
 extracted from Galen and the Arabian
 FRANCISCUS DE PEDEMONTIUM was one
 compliers, and he dwells at great
 on the subject of Small Pox. When
 the treatment, he recommends the usual

"Sed colores rubei omnes significant super calorem prop-
 ertes igneas quæ in eis manifestantur." De Simplic.
 Averrhoes.

cognitione virtutum medicinarum singularium per
 tionem." C. iii. tract 1, lib. 2. Avicennæ.

remedies to expel the pustules to the surface, but he also advises, “to excite * and assist nature in drawing them to the skin: which is to be done by warm air and by *red bed coverings*.” And he afterwards recommends, “that the blood should be carried to the surface of the body, by looking upon red substances:” whence Avicenna said, “that the sight of red bodies moved the blood.” This plan of employing red bed coverings and hangings in the Small Pox was approved of, and adopted by many celebrated physicians all over Europe; and it continues to this day in some parts of Portugal.

In the history of Medicine, the origin of errors is a principal research; and they may

* “Oportet habilitare naturam, et incitare ad exitum (Variolarum) et trahere ad exteriora. Fiat autem illud cum calefactione æris, cum coopertura ex indumentis et proprie *rubeis*.”

“Et cum eo quod habet sanguinem movere ad exteriora, ut aspectus rerum rubearum. Unde Abuhali† ait, Movet enim sanguinem res intueri rubeas.” Supplement Operib. Joan. Messue Damas. Francis. de Pedemont. De Febre Putrid. cap. 6. Venet. 1602.

† Abuhali is the usual name given to Avicenna, by the Arabians; the quotation is incorrect, though the application was different. “Movet enim sanguinem res intueri rubeas; quapropter prohibemus illum, ex cujus naribus sanguis fluit, res splendorum habentes rubeum aspicere.” Liber Canonis Avicen. lib. i. Fen. i. Doct. 4. cap. 2.

usually be traced back to men of superior capacities. The blunders of the weak are short-lived, but a false theory, with a semblance to nature, struck in the mint of genius, often deceives the learned, and passes current through the world.

ALBUCASIS followed, or was cotemporary with Averrhoes, and wrote a work called *Al Tarif*, the surgical portion of which was excellent: but the medical part, especially that which regards Small Pox, is almost copied from his predecessors. However, as a compilation, the work has merit; and he may be considered as the last of the Arabians. For the energy which inspired Mahomet, and which he communicated to his immediate chosen successors, was now exhausted; and all mental improvement in Asia was suppressed by degrading bigotry, and slothful voluptuous tyranny. But classical and Arabian literature having been transported into Europe, fructified vigorously where the Sovereigns were controlled by an aristocracy, and where the spiritual and temporal powers were wielded by rivals. The progress of medical knowledge was however extremely slow, even after the establishment of schools and universities. This was partly owing

to the difficulty of the subject; and perhaps a general principle, that the powers of the imagination are of quicker growth, and ripen faster than the faculty of reasoning. Therefore when the sciences revived, they were embarrassed with a suite of fanciful attendants; Magic and Witchcraft alarmed Theology, and deceived Jurisprudence: Astrology was associated with Astronomy; and Alchemy with Chemistry; and all were jumbled together in the chaos of Medical Theories.

This incongruous combination was strikingly exemplified in the works of ARNAUDE DE VILLENEUVE, who was born in the latter end of the 13th century. He called himself a Milanese, yet some authors assert, that he was a Catalonian: but others, who are more generally credited, maintain that he was born at Villeneuve in Languedoc. It is certain, that after travelling for improvement over a great part of Europe, he fixed his residence chiefly at Paris, where he practised medicine. His reputed acquirements were very numerous. He is said to have been master of the Greek, Latin, Arabian, and Hebrew languages; and not only to have possessed profound knowledge in Theology, Philosophy, Astronomy, Medicine, and Che-

mistry; but also in Astrology and Alchemy. During life he certainly enjoyed surpassing fame, but his works still exist.

His skill in Astrology was displayed, by foretelling from the conjunction and opposition of certain stars, that Antichrist would infallibly appear in the year 1464. But this prophecy excited less alarm in the church of Rome, than the publication of certain theological theses, in which he ventured to impugn some orthodox doctrines respecting the papal power. This was no jesting business; the Inquisition began to stir; on which he fled from France, and took refuge in the Court of Frederick, King of Sicily, where he was very honourably received.

It may be inferred from this persecution, that his polemical talents were formidable: But, notwithstanding his heterodoxy, when the reigning Pope fell sick, he wished to consult him in his medical capacity; and applied to Frederick to send him to Rome. Arnaude set out and was drowned in the passage, about the year 1313.

This author is said to have written with amazing rapidity, and never to have made an erasure, or to have even stopped to correct numerous orthographical errors. He was therefore abundantly confident; yet what is most valuable in his medical instructions, is certainly borrowed: and although his original compositions are the

most curious ; those which excite the greatest curiosity are the least intelligible *. One essay entitled the Treasure of Treasures,† the Rosary of philosophers, discloses an easy receipt for forming the philosophers' stone. It may be so, but no one, except a profound adept, can comprehend it : the Flower of Flowers is equally mysterious ; and there is a treatise to instruct women in the art of adorning themselves, which runs into the opposite extreme ; it is much too plain. He commences with describing the method of bathing in the morning, and proceeds into the most minute and secret details of a lady's toilet ; he gives numerous receipts for correcting every personal blemish and defect ; and also teaches wonderful methods of improving their attractions. There is among the latter, a lotion to make the hair bright and yellow as gold, which was then the favourite colour. But this, like his alchemical discoveries, is asserted upon hypothetical assumptions ; for although Arnaude's faith in his own knowledge was very great, he was very ignorant of the real properties of the substances he used ; and could no more give to hair, than to lead, a golden co-

* Arnaldi Villanovani Omnia Opera, Basil. 1585.

† " Thesaurus Thesaurorum, et Rosarius Philosophorum, " Flos Florum," &c. &c.

lour. Yet he appears to have been much consulted by the sex, on some interesting particulars; and his promises to them were mighty, though his medical performances could have been nothing. But the disclosures to which he alludes, prove incontestibly, that ladies now are far more chaste, and incomparably more delicate, than in the days of chivalry.

Arnaude also treated of sorcery, as of a malady in the physician's province. He was of opinion that married men were peculiarly apt to be bewitched; neither however by love philters, nor by the charms of their wives, but by certain malignant spells, which had the power of frustrating conjugal love.

He describes several of these diabolical witcheries, and also the potent arts by which they may be overcome. One of his most powerful counter spells, which "will drive * a demon out of a house, and annul all his sorcery, is "to sprinkle upon the floor the gall of a black

* "Fel canis masculi nigri domui aspersum, dæmonem pugnabit, ne malificium damnum inferat."

"Item Lapis, qui magnes dicitur portatus, discordiam inter virum et mulierem, vel uxorem, sedat omnino." "Item si sub vestibus Dæmoniæ ponatur radix Eryngii, Dæmoniacus confitebitur quis est, quod est, et unde est, et effugiet." Libro citat. p. 1531.

“ dog.” And he assures us likewise, that
“ carrying a loadstone in the pocket will not
“ only appease all discord between a man and a
“ woman, but even between a man and his
“ wife ;” “ And if any one will put an eringo
“ root under the garments of a man possessed
“ by a Demon ; the Demon will immediately
“ confess, who he is, what he is, from whence
“ he came, and then will fly away.”

Notwithstanding all this, as Arnaude de Villeneuve was the most admired physician of his age, it was requisite to know his opinion of the Small Pox. This however was not easily discovered, for he disdained to employ the modern names Variolæ et Morbilli. But, after an accurate search, these diseases were found to be included in the chapter upon the anthrax and carbuncle. All these eruptions he conceived to be of the same pestilential nature ; and the little which he writes upon them, is chiefly extracted from Rhases and Avicenna.

There is some difference of opinion among antiquarians respecting the exact period when GILBERT lived. Baleus thought that he flourished at the commencement, but Dr. Freind *,

* Histor. Medicin. Dr. Freind.

from better reasons, at the end of the thirteenth century, during the reign of Edward the First. At all events, the *Compendium of Medicine*, by Gilbert, is the earliest English medical work now extant. England was then shackled by Feudal and Papal chains; and the authors shewed little of that originality of thinking, which they have since displayed. Gilbert, indeed, hardly ventured to think, and frankly owned *, what is very apparent, that the substance of his work was extracted from his predecessors.

His account of Small Pox and Measles is borrowed from the Arabians, altering, in some degree, the treatment for the worse.

He advises “to guard the patients attentively
“ from cold, and neither to grant them cooling
“ medicines nor cooling diet.” “The pustules
“ are to be opened with a golden needle,”
“ and variolous ulcers are to be dressed with the
“ ointments employed in the leprosy.” He
concludes with this remark, obscurely Latinized,
“ that the old women in the country, added to
“ the drink of the sick, some burnt purple, (or
“ red ingredients), which, like cloth dyed in-
“ grain, had a secret virtue of curing the Small
“ Pox.†

* *Compend. Medicin. Gilbert. Anglic.*

† “*Vetulæ provinciales dant purpuram combustum in potu:*

Nothing, certainly, flies so swift as folly. The Arabian doctrine of the medical qualities of colours, had already reached this island, and was improved by English Gossips. And their addition, as will soon appear, was speedily adopted by the rest of the faculty.

The Italian physicians, of the fourteenth century, were certainly the most learned in Europe; but they rarely aspired to any higher ambition, than to comment or elucidate the Arabians.

GENTILI, of Foligno, was a most subtle doctor. He wrote a book of doubts, upon the fourth and fifth canons of Avicenna *; in which he ventures to call in question the ancient theory of Isaac, improved by Avicenna, of the female blood being the cause of the Small Pox and Measles. This was a bold measure at that time, but did not make the impression that it ought to have done. To doubt is the first step to knowledge; and those of Gentili are decisive proofs of his possessing a superior capacity.

“ habent etiam occultam naturam curandi variolas : similiter
 “ pannus tinctus in grano.” Compend. Medic. Gilbert.
 Anglic. Lib. 7. De Variolis et Morbillis. Fol. 347.

* Fabul. Dubior. ac Capit Gentilis Fulig. super Quart. et Quint. Canon. Avicen.

HERCULANUS followed on the same tract*: but the glosses of both, on the obscurities of Avicenna, are a maze of perplexing refutations, and incomprehensible expositions; in which the tired reader wanders without a clue, and finds no end.

The French and English physicians of this age were less harassing; and humbly imitated each other in their most puerile conceits.

For the Flower of Flowers, by Arnaude, was hardly blown, when the Lilly of Medicine sprang up, in the college garden of Montpellier, and the Rose was planted in England. The French florist's name was **BERNARD DE GORDONIO**, a physician of distinction in the university of Montpellier; who observes in his introduction, "that there are many flowers on a
 " lilly, and in each flower there are seven white
 " leaves, and seven grains like gold; in simi-
 " litude of which, this book contains seven
 " parts. †" This conceited author recommends

* Joan Herculani Exposit in prim. Fin. Quart. Canon. Avicen.

† " In Lilio sunt multi flores, in quolibet flore sunt septem
 " folia candida, et septem grana quasi aurea. Similiter Liber
 " iste continet septem partes." Liliū Medicin. Ber. de Gordon.

The Physicians of that age observed nothing; Gordopius had never even counted the leaves of a Lilly.

wrapping up Small Pox patients in red cloth*, and the rest of the work is an abridgement of Avicenna.

The famous English Rose, by JOHN of GADDESSEN, notwithstanding its fragrant title, was a mere treatise on Physic; and, like the former, almost entirely extracted from the Arabians.

It is something odd that our medical, as well as our religious doctrines, should be originally derived from Asia.

This work is perspicuous and well arranged, and was long held in great admiration; yet it gives no favourable idea either of the philosophy of the times, or of the purity of old English manners. The consultations and requests, particularly of female patients, are proofs of grossness and profligacy surpassing the present age. And no man now durst prefix his name to a work containing such indecencies, as were openly published by the principal physician of Edward the Second. He appears also to have acted in capacities which modern physicians would regard as derogatory to their dignity. For he operated as a surgeon, dispensed medicines as an apothecary, sold secret remedies as

* “Deinde involvatur totum corpus in panno rubro.” De Variolis, Libro citat.

an empiric, cut corns, and gave advice in physiognomy, chiromancy, and cookery: and, in fine, was not checked by false delicacy, from either acting or advising, whenever money was offered. He acknowledges, however, that in the cure of scrophula, his most powerful receipts, such as pidgeon's dung and the blood of weazles, were far inferior to the touch of the most noble and serene Kings of England. *

In his discourse on Small Pox and Measles, he has omitted few of the errors of the Arabians. He believed implicitly in the loathsome theory of the Jew; and his chief indication of cure, was to expel morbid humours. He was so close an imitator of the Arabians, as literally to adopt their receipts, and he even praises figs for their virtue of expelling Small Pox, a fruit not likely to have been then much known in England. Nor does he neglect the last improvement, that

* “ Si ista non sufficient, vadat ad Regem, ut ab eo tangatur et benedicatur. ——— Valet tactus Nobilissimi et Serenissimi Regis Anglicorum.”

“ Capiatur ergo scarletum rubrum, et qui patitur Variolas, involvatur in illo totaliter, vel in alio panno rubro, sicut ego feci, quando inclyti† Regis Angliæ Filius variolas patiebatur, curavi ut omnia circa lectum essent rubra, et curatio illa mihi optime successit: nam citra vestigia variolarum sanitate restitutus est.”

† This Renowned King was the feeble Edward the Second, and the Son was John, brother to Edward the Third, who died 1330.

of wrapping up the patients in scarlet dresses. For he states, "that when the son of the renowned king of England lay sick of the Small Pox; I took care that every thing around the bed should be of a red colour; which succeeded so completely that the prince was restored to perfect health, without a vestige of a pustule remaining." He also followed the sagacious advice of the old countrywomen, as recorded by Gilbert *, by directing his patients to suck pomegranate seeds, or gargle with wine of pomegranates, mulberries, or other red fruits, mixed with warm barley water to preserve their mouth and throat from pustules. This advice is given seriously, by one of the most learned men at that time in England. In truth there seems to have been a fascination in this remedy, which in the sixteenth century was conveyed by the Portuguese even to Japan, where it was greatly admired. For it is related by Engelbert Kæmpfer †, that when any

* — "Ad oris et gutturis custodia sugenda sunt punice-
rum malorum grana, eorumque vinum est gargarisandum:
similiter vinum mororum, id est, succus eorum, qui est rubeus
ut vinum cum aqua hordei calida."

"Aperiantur cum acubus de auro et argento."

Joannis Anglici Praxis Medica, Rosa Anglica dicta.

† The History of Japan, by Engelbert Kæmpfer, translated by J. G. Scheuchzer, F.R.S. 1727. It may be questioned whether this practice did not originate in Japan.

of the Emperor's children are attacked with the Small Pox, not only the chamber and bed are covered with red hangings, but all persons who approach the sick prince must be clad in scarlet gowns.

John of Gaddesden also recommends that Small Pox pustules should be opened by gold or silver needles; OEconomy had probably tempted him thus to enlarge the instructions of Avicenna. And he declared, “ that the
 “ Small Pox may attack the same person twice,
 “ if the matter has not been totally expelled
 “ the first time, or if he eats figs frequently,
 “ which drives the humour to the skin *.”

But it ought not to be concluded from the above quotations, that the English Rose is equally irrational on other subjects: for the medical, and especially the surgical practice, in many diseases is judicious; though the obstacles surrounding the Small Pox were superior to the mental powers of that age.

* “ Aliquando variolæ bis hominem invadunt: quando
 “ prima vice non totaliter expellitur materia, et cum homo
 “ frequenter comedit ficus, quia materiam ad exteriora expellunt.” Ros. Anglic.

CHAP. VI.

FROM THE FIFTEENTH TO THE MIDDLE OF THE
SEVENTEENTH CENTURY. FIRE, PHILOSOPHY, AND
THE ALEXIPHARMIC TREATMENT.

IN the fifteenth century, literature continued to advance, and theological controversies proportionally augmented. For the sublime visions of Plato, and their adaptation to the benign doctrines of Christ, produced an infinite variety of religious dogmas. Each subtle point was debated by the interminable logic of Aristotle, and war raged among the guardians of the souls of men. Those who undertook the charge of their bodies, were comparatively calm; for medical fanaticism is rare. And although Physicians, like Theologians, are often tenacious of their doctrines, and desirous to gain proselytes; yet when they fail, instead of persecuting the unconverted, they only interchange mutual compassion for their opponents' understandings, and patients.

But their diffidence during the whole of this century was such, that they generally continued to adhere to the ancient theory and practice of the Small Pox.

VALESCUS DE TARENTO, however, gave a hint of an improvement which had begun, with regard to the practice of opening the pustules *. This proceeded not from the observations of learned physicians, but from the resistance of the illiterate vulgar; who often refused their consent to this operation. And

GUAINERIUS gave many cautions respecting external applications to the pustules. This author also granted an indulgence to wet-nurses, which is unusual in England, though perhaps necessary to female constitutions in Italy: and he imposed a very easy restriction to prevent this from injuring the child †.

But few innovations occurred till the beginning of the Sixteenth Century, when Astronomy having begun to unfold more knowledge of the heavenly bodies, produced an exaltation of mind favorable to the tenets of Astrology. This false science was then in great repute, and the physicians of those days consorted too much with Astrologers.

* “Hoc autem documentum est contra opinionem omnium
“Laicorum, qui nolunt quod (Variolæ) perforentur.” Lib. vii.
cap. 17. Valesc. de Tarent. opera, Lug. 1526.

† “Etsi coitu tali nutrici absolutè prohibeatur: si tum
“robusta foret et coitui assueta: diuque sine ipso permansisset:
“sibi coitus conveniret: sed tunc lactare infantem usque post
“horam non debet.” Anton. Guainerii Papiens. opera.
Venet. 1517.

FRACASTOR, of Verona, appears to have been guilty of this, yet was so disinterested as to practise medicine without receiving fees. He was a true son of Apollo, being both a poet and a physician; but unluckily preserved both characters in all his works. For he descended to adorn a disgusting disease with the graces of poetry; and when searching for the causes of the Small Pox, he soared to the stars. From this height he imagined he perceived that the heavenly bodies in certain positions shed a malignant influence upon earth, which occasioned all contagious diseases, and among the rest the Small Pox and Measles. Falling stars and comets he considered as undoubted signs of putrefaction taking place below. And he declares, “that when there is a conjunction
 “ of many stars, under the larger fixed stars,
 “ it may then be predicted that a contagion is
 “ about to spread: and moreover, that the
 “ aspect of the planets, to which Astronomers
 “ attribute these portents, are neither to be
 “ altogether neglected nor dreaded *.”

* “ Quod si conjunctio syderum illorum sit plurium quidem
 “ sub majoribus earum quæ fixæ dicuntur, tum et prædicere
 “ potes insignem aliquam portendi contagionem. Sunt porro
 “ et aspectus quidam planetarum, quibus astronomi hæc por-
 “ tenta tribuunt, qui nec omnino negligendi, nec semper
 “ timendi.” De Sympathia et Antipathia, lib. vii. De Con-
 tagione, &c. Hieron. Fracastor.

It is odd that Fracastorius, though filled with these conceptions, neither abandoned the theory of Isaac, nor the established practice. All, though inconsistent, were made to coalesce by a presumed concatenation of causes.

Many circumstances combined to augment the credulity of this age. Those persons in the church who were held in the highest reverence, frequently attested the performance of miracles by holy men, by an host of departed saints, and even by their relicts. Thus the interruption of the regular course of nature, and the interference of Heaven in human affairs were conceived to be usual occurrences. Under this superabundance of faith Astrology and Alchemy flourished; but philosophy accords better with a portion of Scepticism. Some curious discoveries were however made at this time in Chemistry; a few substances were partially analysed, and several unexpected combinations were effected. These new facts acted so powerfully upon the imagination, that the most astonishing products were looked for. Alchemy became an ardent pursuit; and some enthusiasts spent days and nights in experiments, expecting to behold either the universal solvent, or the elixir of health and longevity distilling in their alembics; or perhaps to find the philosopher's stone calcined in their crucibles. The persons

thus employed, were stiled Fire Philosophers, and PARACELsus was their chief.

The father of this extraordinary personage is unknown. In the heroic ages this hidden birth might have gained him a divine origin; but in these humbler times, a Prince was supposed to be a sufficiently elevated, and rather a more natural parent. He received a learned education, and gave indications of an uncommon capacity; and at length was so fully satisfied with his acquirements, as to conceive that he had reached the pinnacle of human knowledge.

In the year 1527, he was appointed Professor of Medicine at Basle, and being resolved to reform completely the whole system of Physic; at his first lecture he burnt, before the eyes of his amazed auditory, the admired works of Galen and Avicenna. Claiming a superiority over all his predecessors and cotemporaries, he assumed the title of “The Monarch of Physicians”, and derived his pretensions from God. In a strange style of rhetoric he proclaimed, “I profess boldly*, that the hair on the back of my head knows more than all your authors;

* “Audacter enim profiteor, quod lanugo occiputii mei
“multo plura sciat quam scriptores vestri universi. Quin et
“calceorum meorum annuli doctiores sunt ipsissimo vestro

“ the clasps of my shoes are more learned than
“ both your Galen and Avicenna; and my
“ beard possesses more experience than all
“ your academy.” This bombastic tone had
splendid success; and Paracelsus was long con-
sidered either as a man inspired, or as one who
possessed genius. The impression which it
now makes must be very different; yet it ought
to be acknowledged, that he first put a check
to that blind devotion which hitherto had been
paid to the ancient masters: for he overturned
completely the doctrine of the four famous
humours, which had so long kept possession
of the schools, and which confounded all me-
dical reasoning. But who can pretend to give
a clear account of the system he set up in its
stead? It is no easy pursuit to follow his tract
through the celestial regions, when pointing
out the various co-operations of the heavenly
bodies upon man; marking what stars are of a
hot, and what of a cold nature: which strike
with their rays the heart or brain, and
which the liver and loins *. And it is equally
difficult to descend into his laboratory, and to

“ Galeno vel Avicenna. Et barba mea experientiæ majoris
“ est quam academix vestræ universæ.” Præfat. in Lib.
Paragr. vol. i. p. 186. Paracels. opera. Genev. 1658.

* Remnants of this philosophy still disgrace every British
Almanac.

comprehend those mysterious operations, described in cabalistic phrases, by which he formed the powder of precipitation, or condensed the sun-beams into the colouring matter of gold. Nor are such investigations safe; for by soaring too high, or plunging too deep, the adept's senses were apparently bewildered.

These perilous pages being rapidly turned over, the attention was arrested by an Essay, which gave the original hint of the machinery which adorns the liveliest and most fanciful poem in the English language.

Paracelsus taught that the elements, fire, water, earth, and air, were filled with salamanders, nymphs, gnomes, and sylphs. These beings, who were afterwards rendered so interesting, are coldly noticed; and their form and habits are slightly passed over. But still their existence is positively asserted, and to convince the incredulous, the following true history is related.

“ A river nymph*, of eminent beauty,
 “ was enamoured of a German nobleman;
 “ she sat down on a road frequented by him,

* “ Jam historiam veram addemus de Nympha Stauffenbergensi, quæ formæ spectatæ in viam consedit, et quem
 “ sibi elegerit dominum præstolata est

“ and tarried there till he passed. He was
“ fascinated with her appearance, and con-
“ tracted such a marriage as is in use with
“ these superior natures. At length a scruple
“ arose in his mind, that he was cohabiting
“ with a demon : and either to preserve his
“ soul from perdition, or from love of an
“ earthly beauty ; he courted and gained a wo-
“ man’s heart. In the midst of the revels,
“ when the nuptial feast was celebrated, the
“ bridegroom, seated by his bride, saw one
“ of the limbs of his deserted nymph pushed
“ upwards through the pavement of the ban-
“ quetting room ; it made him a sign ; on
“ which, the perjured wretch sunk on the
“ floor. He was conveyed to his chamber, and
“ on the third day, was found dead.”

Paracelsus declares his conviction, that this catastrophe proceeded from the righteous judgment of heaven : as plighted faith ought to be kept equally sacred with a nymph, as with a woman.

“ *Nympha dicta Undena fuerat et prænominato Stauffen-*
“ *bergense nupserat, tamdiu ipsi cohabitans, donec uxorem*
“ *aliam ille duceret, quod Nympham pro Diabolicam haberet.*
“ *Qua re cum fidem Nymphæ datam violasset, ipsa per su-*
“ *perius pavementum porrecto crure illi in mensa in die nup-*
“ *tiarum sedenti signum dedit. Quo attonitus die tertio*
“ *mortuus inventus est.*” Paracels. Oper. vol. ii. p. 396.

Without any farther proof, these imaginary beings were admitted as an essential part of the Rosicrucian creed. Above a century afterwards, Joseph Borri, a Milanese enthusiast, and prophet, or rather a religious impostor, confirmed the existence of these spirits in a strange mystical Essay, called the “Key of the Cabinet*”; by which he pretended to unlock many hidden mysteries. And from this, the Abbé Villars de Montfaucon composed his romance of the Comte de Gabalis†, a fictitious Rosicrucian; who was of course acquainted with sylphs, nymphs, gnomes, and salamanders. By this intimacy he ascertained the surpassing beauty of the female spirits, who were by no means coy in their intercourse with men; and entertained an unaccountable predilection for wrinkled philosophers, and smoked

* *La Chiave del Gabinetto.*

Borri tried to be the chief of a religious sect, and perhaps his ambitious views extended far. But the church of Rome took alarm, and burned his works and himself in effigy, in 1660. He escaped to Holland, took the title of the Universal Physician, and pretended he had found out the Philosopher's stone. By this tempting pretence, he extracted gold from Christina of Sweden, and other eminent dupes; at length, being detected, yet still dreaded, he ended his days a prisoner in the castle of St. Angelo.

† *Comte de Gabalis, ou Entretiens sur les Sciences Secrètes.* Paris, 1670. Wharton's *Essay on Pope*.

alchemists. To gain their favours one condition was indispensable, easy to any for such a reward, and peculiarly so to such lovers: for it was only required to renounce all intercourse with those inferior natures, women.

A few intrigues of the sylphs are related, which are weak imitations of the tale of Paracelsus: for neither the Italian adept, nor the vivacious French Abbé, had capacity to improve the original. But an English cabalist, of the tuneful tribe, caught a spark from the latter, and, by the fire of alchemy and poetry, purified and sublimed the spirits of the elements, and sprinkled them with the Castalian elixir of immortality.

Paracelsus is not only less amusing, but generally incomprehensible, when he treats upon philosophical or medical subjects: for example, What can be made of such a rhapsody as this?
“ The pulse * is contained in the firmament,
“ physiognomy in the stars, chiromancy in
“ minerals, spirit in the east and west winds,
“ and fevers in earthquakes.” Nor is his

* “ Pulsus continetur in firmamento: Physionomia in
“ astris: Chiromancia in mineralibus: Spiritus in euro et
“ zephyro: Febris in terræ motibus.” De Philosophia Parac.
Oper. p. 191. vol. i.

Archeus more intelligible, who reduces the food in the stomach into sulphur, mercury, and salt. He also maintained *, that these three principles, together with astral influence, are the chief causes of all pestilences; among which the Small Pox and Measles are included: and the great remedies for which are said to be gold, pearls, and sapphires.

Notwithstanding this fustian, Paracelsus possessed some acquaintance with chemistry, and by his experiments added to the stock of facts in that science. But his pretensions were boundless, and so imposing, that he was venerated by multitudes, and is generally considered as the founder of that wild sect the Rosicrucians.

But Daniel Sennert, a man of a fair character, who had good information †, represents Paracelsus in a most unfavorable light. He declares that his learning was superficial, and that he was even obliged to others for translating his effusions into Latin. He accuses him of employing secret nostrums, particularly opiate pills, and of boasting of their infallibility. He asserts, that his conduct in private life was disgraceful; that he was a glutton and a drunk-

* De Pestilitate. Opera Paracelsi. vol. i.

† D. Sennert. Urit. Opera. tom. i. De Paracelso. Lugd. 1676.

ard, who wasted his time in carousing with patients of the lowest order. This course of life cut him off at the early age of forty-seven, though he carried the universal remedy in his pocket.

In the character of this personage, enthusiasm and empiricism, appear to have been amalgamated.

FERNEL was born in the year 1485; and became physician to Henry II. of France. He was cotemporary with Paracelsus, and though a far superior man, acquired less notoriety. He wrote good Latin; and the solidity of his judgment preserved him from many of the fantastic delusions which were prevalent at that time. He was not however exempt from all, for he believed in magic; yet in no other medical author of that age is there to be found so much good sense and sound reasoning.

He was justly denominated the Restorer of the science of Medicine, which he taught at Paris, and was the first Professor who brought that medical school into celebrity. A solid reputation like this, is never gained without intense labor; and the exertions of Fernel, in the practice of physic, and in the acquisition of knowledge, were so unremitting, that his affectionate friends remonstrated with him, and

intreated that for the sake of his family, and of the world, he would grant himself some relaxation. To which he mildly answered, “ A long repose will be given by Fate *.” This most useful physician was also endowed with the keenest sensibility ; for at the age of seventy-two, he was so deeply afflicted with the loss of his wife, that he died a short time afterwards.

Fernel’s work on the Hidden Causes of Things, is an extraordinary composition ; in which there are many acute observations on the occult causes of all Plagues, by which he means every contagious epidemic disease.

He first sets forth, that the cause † is in the air, and then enters into an investigation of the various sources of bad air. These are chiefly pools, lakes, caves, stagnant water, dens, and the putrefaction of excrementitious and dead animal matter. But lest these should not be adequate to account for wide spreading pestilences, he supposes that the air may also be rendered baneful by a *combination* of certain stars. He sums up his doctrine in these words ‡ : “ There are three kinds of general diseases in the air. The endemic, which arise from ter-

* “ Longa quiescendi tempora Fata dabunt.”

† De abditis rerum Causis, lib. ii. cap. 12.

‡ “ Tria diximus in aëre communium morborum genera, Endemium, à terrenis inferioribusque expirationibus, Epi-

“ restrial exhalations : the epidemic, which
 “ proceed from violent tempests and changes
 “ of weather ; and pestilences which are pro-
 “ duced by an occult malignant disposition
 “ sent down from the heavenly bodies.” Small
 Pox and Measles are included among the
 pestilences, and are called Exanthema and
 Ecthyma.

The belief in astral influence did not proceed, in Fernel, from superstition ; but from an hypothesis the usual source of medical errors. He imagined that a salutary emanation commonly flowed down from all the heavenly bodies to the atmosphere. But when an unfortunate conjunction of the stars took place, the emanation was noxious, and was the cause of the various plagues which were observed in this world.

As Fernel rejected the Arabian theories, this was gaining a great point ; and he approached to the knowledge of marsh and putrid miasma, and to the contagious exhalations of the present day : on other occasions, this philosopher appears struggling amidst the prejudices of the times.

“ demium à vehementi temporum tempestatumque mutatione :
 “ Pestilentem ab occulta malignaque qualitate coelitus de-
 “ missa.” Lib. ii. cap. 12. Fernelii Opera.

He never names the Small Pox or Measles, as they are not mentioned by the Greek and Roman writers, on whom he principally relies for his practice ; and being too much disposed to generalise, the treatment of these diseases seem to be comprised in that of fevers. Fernel was more sparing of phlebotomy than the Arabians ; he recommends moderate evacuations, grants cool drinks, fresh air, and lighter coverings. But as the Small Pox is never mentioned by him, it may certainly be questioned whether this judicious plan was intended by him to be used in that, as well as in other fevers : especially as neither his cotemporaries, nor immediate successors, adopted it in that disease.

FORESTUS was born at Alcmäer in 1522, who composed a stupendous folio on Medicine. He brought back all the Arabian causes of Small Pox and Measles, and added to them Fernel's vitiated air. His treatment consisted in the hot alexipharmic regimen, which was then universally used in the Plague, and in all malignant fevers ; among which the Small Pox and Measles were arranged. As the mischiefs resulting from acrid external applications were more obvious, than those from internal remedies, that part of practice was reformed first.

Hence Forestus observed, “ that when the
 “ pustules matured, and dropt off sponta-
 “ neously, they were more easily cured, and
 “ left fewest pits *.” He did not, however,
 venture to prohibit positively all local treat-
 ment; for he commonly opened the pustules
 when fully ripened, and he mentions the ap-
 plication of oil of almonds with approbation.
 Another remark shall be quoted as it relates to
 a point which has been controverted of late.
 “ Some allege that the same man may be seized
 “ with the Small Pox, not only twice, but
 “ repeatedly; which experience, the decider of
 “ facts, testifies. And we observed this, both
 “ in our own son, who though only a boy, had
 “ the Small Pox twice; and in many other
 “ patients †.”

This also occurred to a son of Fracastor.

MERCURIALIS was born in Romagna, in the

* “ Si (Pustulæ) sponte maturentur, et deciderint, quod
 “ minori negotio persanentur, et minus per se vestigia re-
 “ linquant.” Obs. 50. lib. vi. Dom. Petri Foresti. Alc.
 Opera. Franc. anno 1634.

† “ Alii vero ad alias respicientes causas non semel homi-
 “ nem in hunc prolabi, sed bis vel pluries asseverunt, id quod
 “ verum esse experientia rerum magistra tellatur: ut et nos
 “ in hoc nostro filio, qui bis variolas habuit, licet puer, et in
 “ aliis multis ægris observavimus.” Petri Forest. &c. Opera,
 lib. vi. Ob. 43.

year 1530, and acquired throughout Italy, the designation of the *Æsculapius* of the age. His divine skill procured him also abundance of terrestrial rewards: for he lived splendidly, was liberal to his friends when embarrassed, and of a generous and charitable disposition; yet he left at his death, 120,000 crowns of gold. As a physician's fortune is sometimes aided by female influence, it should be mentioned, that *Mercurialis* was beautiful in his figure, and endowed with an angelic disposition. He was so much adored at Forli, his birth place, that a statue was erected for him by the inhabitants.

These flattering circumstances add nothing to his posthumous fame, which rests upon his works: these are numerous; but his opinions on the Small Pox and Measles can alone be noticed here.

He refuted so ably the Arabian theories *, that it is a reproach to the profession they were ever afterwards entertained: but in the more difficult attempt of establishing another, he failed.

Mercurialis adopted that part of Fernel's theory which imputed the rise of the Small Pox and Measles to corrupted air. This he conceived was the original cause, but he sup-

* D. Hieron, *Mercurialis Forol. &c. De morbis Pueror.* lib. i. Tractat. Varii. Lugd. 1618.

posed that these diseases were perpetuated by hereditary disposition. *

Upon this point his opinions were very extraordinary: for he imagined that parents communicated to their offspring taints of all the various maladies which they had previously contracted in the course of their lives. And that all these diseases broke out in their descendants, when excited by any accidental constitutional disturbance.

Another supposition was added, that the immediate cause of Small Pox and Measles, in those who had the hereditary taint, was a morbid state of the humours, occasioned by errors in regimen.

Thus conjectures were piled upon conjectures; but he never thought of proving them by facts. Had he observed keenly, instead of speculating vaguely, he might have perceived, that the children of parents who had escaped the Small Pox and Measles, were equally sus-

* “ Initio hic morbus vitio cœli omnes tentavit aut fere
 “ omnes; qui deinceps hanc proprietatem paternam in filiis
 “ inferentes non est mirum, si longe, lateque malum propaga-
 “ rint; et hæc proprietas facta sit non solum promiscua sed
 “ etiam naturalis.” De Morbis Pueror. D. H. Mercurial.
 Tract. Varii. Lugd. 1618. — “ Cur aliqui tententur bis hoc
 “ morbo, rarissime ter, fere omnes semel tantum.” Loco
 citat.

ceptible of those diseases, as the descendants of those who had been contaminated through ten generations.

The practice of Mercurialis seems to have been less injurious than that of most physicians hitherto mentioned : for he advises * moderating a little the heat of the air, and rather lessening the number of red blankets, with which the patients were wont to be almost suffocated. He disapproves both of opening the pustules, and of external applications.

This author also is of opinion, that almost every person must have the Small Pox once ; and that some few contracted it even thrice.

DANIEL SENNERT was born at Breslaw in 1572, he lived to a good old age, and was the most industrious medical compiler in Germany. But far from imitating the little bee † on the hill of Matinus, which sucked with much labour the quintessence from fragrant thyme, he resembled a greedy farmer, who sweeps into his

* Ut eligatur in primis aër temperatus, vel potius calidus :
 “ detineantur ægri optimè tecti pannis, quemadmodum omnes
 “ faciunt rubris : cavendus vero abusus, quoniam mulieres
 “ interdum copia pannorum strangulant pæne ægrotantes, et
 “ ad syncopea deducant,” &c. Libro. citat. De morbis
 Pueror. lib. i. p. 22.

† Vide Horat. Flac. Carm. lib. iv. Od. 2.

capacious barns the entire growth of the fields, grain, chaff, and weeds: his works consequently form almost a medical library, in which the ideas of others are carefully stored, skilfully arranged and amply commented. But being dissatisfied with all former doctrines on the creation of the human soul and body, he confidently enters into a full explanation of this mystery.

Even an abridgment of his elaborate arguments would be insupportable; most readers will have enough who hear that after many inadmissible, though necessary assumptions, it is concluded, that the immaterial spirit * is first created in a glandular liquid of the male: and when it reaches its temporary dwelling place in the womb, it there organizes a corporeal covering for itself.

The same activity is assigned to the souls of brutes; but to explain clearly the distinction between their mortal, and the immortal souls of men, was a difficulty not easily surmounted.

* “ Nobis vero consentaneum videtur, omne semen esse animatum,” &c. &c.

“ Sunt autem duæ in semine operationes, quæ nos ad latentis animæ cognitionem certissimâ viâ deducunt, seminis ac conceptus vivificatio, et postea partium omnium, quæ ad vitæ actiones edendas necessariæ sunt efformatio.” Dan. Senbert. Urit. tom. i. p. 129. Oper. Lugd. 1676.

Freetag *, a bigoted theologian of the church of Rome, took a strange advantage of this; and accused Sennert of blasphemy: which was both inconsiderate and unprecedented; for his notions were only unphilosophical.

Sennert † being an assiduous and methodical man, entertained an antipathy at the irregular wildness of Paracelsus. And being alarmed at the number of his proselytes, he wrote against him with acrimony; both to check the absurd belief in his extravagant pretensions, which was spreading rapidly; and also to encourage a more rational mode of pursuing science. Yet Sennert was no sceptic; on the contrary, his credence included astrology, alchemy, and magic. He suspected that Paracelsus had tampered in the Black Art; and seriously asserts, that magical cures can only be performed by a compact with the devil. For he owns, “ that
“ the devil ‡ has a competent knowledge of
“ physic: but as all his favors and promises
“ are deceitful and destructive to soul and .

* Diction. Histor. Bayle, Article Sennert.

† D. Sennert. Urit. Opera. Lugd. 1676. tom. i. De Paracelso.

‡ “ Quamquam vero negari non possit Diabolum rerum medicarum satia esse peritum: tamen omnia ejus, quae pollicetur, auxilia, fraudulenta sunt, et corpori et animae ini-

“ body, no benefit, but much evil was to be expected from that quarter.” He then admonishes physicians rather to acquiesce with resignation in the death of their patients, than to preserve them by any impious means; because God knows best, when it is fitting that they should quit this world.

The Small Pox and Measles were not neglected by this copious author. The Arabian doctrines, the objections raised against them by Gentilis, Fernel, and Mercurialis, together with the theories of the two last, are amply expounded. And with the exception of the hereditary disposition of Mercurialis, he thought the arguments on every side so reasonable, that he agrees in some degree with all, and also with Forest. On the whole he concludes, that there are three causes of those diseases *, corrupt air, maternal blood, and vitiated aliment. He is also of opinion, that these maladies sometimes occur thrice, though rarely, to the same person: and the Measles he states to be the more dangerous malady of the two.

“ primis hominis perniciosa, et plus incommodi et damni ab iis quam utilitatis expectandum.” Lib. citat. tom. i. p. 234.

* “ A tribus tamen illam provenire statuimus; ab aëre maligno, a sanguine materno, et a vitioso alimento.” Lib. citat. Sennert. tom. vi. De Variolis et Morbillis.

With regard to the treatment, the improvement which had commenced in the management of the pustules is carried on farther.

He thinks it better to leave them untouched ; yet in conformity with the Arabians, he permits with reluctance some to be opened with a golden needle : but he totally disapproves of saline applications, and declares they should be left to nature. Should any ulcers break out, they are to be drest with mild cerates. Red bed clothes are now forgotten.

Sennert was cautious of bleeding, and adverse to the exhibition of purgatives ; and painful it is to relate that he consider the great indication was to expel the noxious humour by perspiration.

To accomplish which, he recommended decoctions of figs, and of various seeds and plants supposed to possess sudorific properties. And when these failed, other drugs and compounds, which were termed alexipharmics, were had recourse to. Among these the bezoar, the coral and pearls, though costly, were very innocent : but the mithridate and Venice treacle were efficacious medicines : yet as their real powers were little understood, it may be doubted if

“ (Morbilli) periculosiores hi quidem sua natura sunt
“ quam Variolæ.” Lib. citat. p. 487.

much advantage accrued from their exhibition. He lastly directs* “ that while using the above
 “ medicines, every attention is to be paid, espe-
 “ cially in winter, to hinder the admission of
 “ cold air. The patient is therefore to be tended
 “ in a warm chamber, and carefully covered up ;
 “ lest by closing the pores of the skin, the efforts
 “ of nature should be impeded, the humors
 “ should be repelled, and the matter which
 “ ought to be driven out should be retained :
 “ from which anxiety, fever, and all the other
 “ symptoms would be augmented, to the immi-
 “ nent danger of the patient.”

After these dreadful directions he gives a very necessary caution † “ not to torture the
 “ patient with excess of heat.”

Physicians perhaps never fell into such fatal errors in the management of any other disease, which evidently proceeded from inventing hy-

* “ Dum vero hæc exhibentur, unice danda opera ne æger
 “ frigidam æerem admittat, presertim hieme. Itaque æger in
 “ æere calidiore detineatur, diligenter tegatur, ne conatus naturæ
 “ impediatur poris cutis occlusis, humoresque ad interiora
 “ recedant, atque materia quæ expelli debebat, intus coerceatur :
 “ unde anxietas, febris, aliaque symptomata, cum maxima vitæ
 “ discrimine in ægro augiantur.” De Variolis et Morbillis
 Sennert. tom. vi.

† “ Non tamen nimio astu torquendus est æger.” Loc.
 cit. Sennert.

potheses, and acting upon them, as if they were ascertained truths. May they take warning !

But although the above had become the regular practice, yet in spite of Sennert, the fascinating folly of fire philosophy had still many adherents.

VAN HELMONT, a cotemporary of Sennert, was born at Brussels in 1577. When he had attained the age of manhood his talents and doctrines began to excite wonder : he certainly became an adept, and perhaps a Rosicrucian. But the church of Rome, prone to suspect the appearance of genius, felt no charity for innovators even in science. The holy inquisitors therefore soon interrupted the alchemical experiments of the young philosopher ; they accused him of magic, and cast him into a dungeon. After a horrid imprisonment, he escaped from their fangs and took refuge in the native country of Erasmus, which was then struggling against the House of Austria, to acquire political and mental liberty. There he lived in security, toiled as he pleased in his laboratory, and speculated in his study unpersecuted. But his works create a suspicion that the terrors of the inquisition had touched his intellect.

Van Helmont, confiding in himself, scorned all imitation. He paid no respect to Hippocrates, he railed at the humoral doctrines of Galen, mocked the garrulity of the Greeks, despised

the Arabians; even censured Paracelsus, and finally affirmed, that the whole art of medicine was a mere imposture.

This monstrous conclusion, as the Faculty will readily believe, was not a deduction from any species of logic. It was a judgment formed in a way unexampled among profane writers. For he declares, that after long and fruitless meditation, and many vain attempts to unravel, by his own efforts, the entangled doctrines of physic, and the system of man, “he * at length fell
“ into a most memorable intellectual sleep. He
“ then saw his soul, which was rather small,
“ and of the human species, but without any
“ sexual distinction. He gazed at this spec-
“ tacle, with astonishment; not knowing what
“ portion of himself remained which could dis-
“ cern his disunited soul; and which still pos-

* “ Saltem magna mox quies me invasit, et incidi in somnum
“ intellectuale, satisque memorabile. Vidi enim animam meam
“ satis exiguam, specie humana, sexus tamen discrimine liberam,
“ Confestim in spectaculo admiratus hæsi, nesciens quænam in
“ me esset Egoitas, quæ animam à se distinctam cerneret, intel-
“ ligeretque intellectum extra se? Ac tum subiit in animam lux
“ quædam, cujus comparatione, lux visibilis hujus mundi visa
“ est continere fæculentes tenebras. Nec enim lux ista diversa
“ erat ab ipsa anima. Ideoque non habebat aliquid simile in
“ sublunaribus.” I. B. Van Helmont Opera. p. 13.

“ sessed intelligence, though the intellect was
“ separated from it. The soul then shone with
“ a sudden light, in comparison with which the
“ visible light of this world is clouded darkness;
“ And that light was indistinguishable from the
“ soul itself, and therefore it has no similitude
“ under the moon.”

There next ensued a long dialogue between his illuminated soul and his self, profoundly abstruse and mysterious.

Van Helmont had a medical call ; and he pronounces positively, that no man can acquire the science of medicine, who is not called by Christ Jesus.

He avows that his writings are inspired by the Divinity, and they are undoubtedly composed in an obscure and almost incomprhensible style.

His grand doctrine was founded upon the Archeus, invented by Paracelsus, which was a personification of the vital principle. The Archeus is the supposed generator of health, of disease, and of every animal function. When he is composed, there is health; when he is enraged, there is disease. There are intermingled with these visionary conceptions, occasional opinions which could only be framed by a vigorous mind.

His remarks upon Small Pox merit being

quoted. “ I confess *,” says he, “ that the
 “ Small Pox flows from poison, and carries
 “ along with it a venemous ferment, which
 “ infects the blood, and contaminates sur-
 “ rounding persons, especially the young: but
 “ as the essence of the poison cannot be de-
 “ monstrated *à priori*, we must measure the
 “ properties by the effects, as a tree by the
 “ fruit.

“ In the first place, the poison of Small Pox
 “ is confined to the human species.

“ Secondly, nature is prone to its formation.

“ Thirdly, the poison kindles around the
 “ stomach, and therefore in the centre of the
 “ body.

“ Fourthly, the parts which are beset with
 “ this poison, speedily repel it to the surface
 “ of the body.

* “ Fateor quidem variolas e veneno scaturire, virusque
 “ secum ducere, suo fermento cruorem inficere, aliosque
 “ adstantes (præcipue verq pueros) contaminare, quodque ve-
 “ nenorum interna essentia non sit demonstrabilis *à priori*:
 “ adeoque per effectus proprietatem veneni metiamur, prout
 “ a fructibus arborem.

1. “ Ergo venenum variolarum esse duntaxat humanæ speciei
 “ proprium.

2. “ Naturam facile pronam ad fabricandam illud.

3. “ Accendi autem circa stomachum, adeoque in centro
 “ corporis.

4. “ Partes semel hoc veneno obsessas illud a se repellere
 “ ocissime versus superficium.

“ Fifthly, after the organs which secrete this
 “ poison have once felt its tyranny, so great an
 “ aversion and horror is conceived, that great
 “ precautions against its reproduction are taken;
 “ lest from carelessness they should fall into
 “ the same evil.”

Some of these remarks are greatly superior to the famed Arabian theories; and the supposition that the internal operations of the body depend upon intelligence and volition, is an easy and favourite mode of explaining them. Indeed, it seems natural to man to bestow his own intellectual faculties upon other objects. Children cherish and punish their play-things: and savages act in a similar manner to their clubs and bows: orators and poets personify all nature; and physicians, although philosophers, are prone to this delusion. In describing the animal functions, they were wont to employ the terms antipathies, sympathies, irritations, and dispositions, as if the vital actions were directed by mental affections. These metaphorical expressions were interpreted literally

5. “ Officinas illius veneni, postquam semel ejus tyrannidem
 “ senserunt, hostili deinde aversione et horrore edoctus; magna
 “ precautionem illius generationem vel ab ipso initio præpedire,
 “ ne uti prius, incaute in illud incidant.” J. B. Van Helmont.
Opera, Paul. p. 690.

by the vivid imaginations of Paracelsus and Van Helmont, who both fancied that a spiritual Archeus, subject to human passions, was diffused through the microcosm, to superintend every action of the animal economy. This invention produced a striking effect, which would have been more permanent had it been brought forth during the dark ages; but the Archeus was a ghostly apparition, who, at the dawning light of the seventeenth century, vanished.

The treatment of Small Pox, the composition of the diaphoretic antimony, and the various arts by which Van Helmont appeased the furious Archeus, drove out diseases, and lengthened life, are very obscurely expounded. These remedies, like the occult processes for transmuting the baser into the nobler metals, and for composing the universal solvent, and the elixir of longevity remain, though all explained, among the arcana of the adepts.

But secrets diverge rapidly; they were soon conveyed to England, and promulgated by Dr. George Fludd and other cabalists, to the confusion of many understandings. In the year 1620, this depravation of reason was however powerfully counteracted, and a reformation in philosophy was commenced by the publication of the *Novum Organum* of the Great BACON: a

" Fifthly, after
 " poison have o
 " aversion and
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the affecting apology made for it; he states that it was written to alleviate his sorrows for the death of his wife.

Willis was a good and learned man, but followed the ancient plan of the schoolmen, instead of the wise plan pointed out by Bacon. For when considering Small Pox* and Measles, he rejects none of the Arabian causes; but adds to them contagion, bad air, and a perturbation of the blood and humors.

If this were the case who could ever be free from Small Pox?

He was acquainted with the fact of these maladies in some rare instances attacking the same person twice and even thrice.

In the beginning of the fever he recommends evacuants of every kind, emetics, purgatives and bleeding, to lessen the supposed effervescence; and afterwards he advises diaphoretics. He does not however urge warmth so strongly as Sennert, but enjoins taking care that the perspiration is not checked.

It is unnecessary to take notice of Rivernus, though he was an author of celebrity, and a

* Opera Thomæ Willis, tom. i. De Febribus.

favorite physician of Louis XIV. because on Small pox and Measles he copies the opinions of Sennert.

DIEMERBROEK professor of anatomy at Utretch; ventured to think for himself on many points; he had the good sense to reject every theory that had yet appeared on Small Pox, and the prudence to invent none. But unfortunately he adhered to that treatment, which had been founded on the theories he refuted; and perceiving the futility of the bezoar, the magistery of pearls, coral, crab's eyes, and scarlet coverlets; he adopted more effectual, and consequently more deleterious sudorifics. His sagacity increased the evil.

This author saw many instances of Small Pox occurring twice.

In the middle of the seventeenth century KIRCHER, a Jesuit, found out a new cause, not only of Small Pox, but of the Plague, and of all those diseases which were considered of a putrid nature. This learned monk invented no hypothesis; but endeavoured to follow the rules of Bacon. He deduced his theory from experiments, and from the evidence of his sight; and therefore believed it to be indubitable. But

in medicine fallacies can so well put on the guise of truth, that we cannot always trust even to our eyes.

The experiments * of Kircher consisted in exposing animal substances to the air until they became putrid ; and as he found them then full of animalcules, he concluded that these animalcules were the cause of putrefaction.

He next examined variolous pus in patients covered with Small Pox, in which he detected multitudes of similar animalcules : and immediately inferred that the animalcules were the cause of Small Pox. He extended this conclusion to the plague, and to every disease, which from an hypothetical theory, had been termed by physicians putrescent.

Being convinced of the accuracy of this reasoning ; he next stretched his mind to discover, why those animalcules should swarm and produce epidemics at particular periods, and should nearly be extinct at others.

It had been usual to look for the cause of these general effects in the state of the air, weather, and seasons : which, according to the astrologers, depended not only upon the relative positions of the sun, and moon, but also upon

* *Scrutinium Physico-Medic. contagiosæ Luis quæ Pestis dicitur. Athan. Kircher. è Soc. Jesu.*

those of the stars and planets. After a strict examination of Almanacks and Astrological tables, he imagined he discovered, that putrid diseases had always prevailed at those times when the planets Mars and Saturn were in conjunction. He therefore inferred, that those two planets emitted very deadly exhalations, which infected the air, and all terrestrial productions with a putrescent tendency : when myriads of animalcules were instantly generated ; and the Plague, the Small Pox, the Measles, or some other putrid fever became inevitable.

Kircher who was a learned ecclesiastic took great pains to demonstrate this theory, which he conceived to be a most valuable discovery ; and his work was dedicated to Alexander VII. the reigning Pope.

Many Italian physicians were convinced by the above proofs, which were also swallowed by Langius*, Hauptman and a crowd of Germans. At length Pfeiffer †, a Prussian professor, and a proselyte to this new doctrine, assured the world from the evidence of his microscope, that the variolous insects were white and pellucid ; that they had one head and six hairy legs : but reading

* Langii Christ. Patholog. Anim. et Miscel. Curios. Medic.

† Variolas ac in primis Epidem. Malig. Verminosas, &c. Sieg. Aug. Pfeiffer, M. D.

the details of their generation, numbers, and activity, makes the flesh to creep.

No one can deny the existence of these insects ; which never having been found on the human body preceding the variolous fever but only in the purulent secretion at the latter stage of the disease, ought evidently to be considered as an effect, and not as the cause of the malady. But no objection or refutation of this doctrine being published, and as it was harmless, although the invention of a Jesuit, it soon died away.

In 1663, a species * of chemical theory was invented by the celebrated SYLVIVS. He conceived that Small Pox and Measles proceeded from acrimony, of which three kinds are enumerated ; the saline lixivial, the acid, and the mixt. He fixed upon the acid acrimony as the cause of Small Pox ; and was of opinion that the menstrual blood was the original source.

He next suspected, that this acid humor lurked in the renal glands, until it was excited by certain procatarctick causes ; these were the air, aliments, and terror. But of this theory there is already a superabundance, although formerly it had numerous pastisans in Germany.

* Francis. De Le Boe, Sylvii Opera.

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CHAP. VII.

THE COLD TREATMENT.—SYDENHAM, BOERHAAVE.

NEAR eleven centuries had now elapsed since the Small Pox and Measles had reached Arabia ; and in the whole of that time the medical profession had founded their treatment upon visionary speculations. As the mischief arising from the external applications was visible, physicians had learned gradually to abstain from them. But although the hot regimen and sweating medicines were followed by numerous deaths, yet the cause was hid : and the theoretic prepossessions were so strong ; that in proportion as the mortality augmented, the injunctions for persevering in that fatal plan became stricter. A revolution at length approached.

In the year 1624, THOMAS SYDENHAM was born at Winford Eagle, in Dorsetshire ; and was a student at Oxford at the beginning of the civil wars, when Charles the First took possession of that city.

The University adhered warmly to the royal cause ; but Sydenham, being in his principles a parliamentarian, retired to London.

He was there persuaded by Dr. Cox, his intimate friend, to study medicine; and when the war terminated he returned for a short time to Oxford, but graduated at Cambridge.

In London, where he established himself, he rose to the first eminence: but neither the emoluments of his private practice, nor the turbulence of the times in which he lived, hindered his exertions for improving medicine, nor prevented his communicating to the public the useful observations he had made. There is, perhaps, not a disease known at that time, the treatment of which was not ameliorated by his sagacity. These numerous improvements evidently proceeded from the plan he adopted.

His opinion of the mass of medical books may be gathered from a whimsical advice * which, when advanced in years, he gave to Sir Richard Blackmore: who, when a student of physic, requested Sydenham to point out to him what books he should read to qualify him for practice. Sydenham replied, "read Don Quixote, it is a very good book, I read it still."

This, perhaps, marked his contempt for those medical writings which were merely speculative; but he had been struck with the wisdom of

* A Treatise upon the Small Pox, by Sir Richard Blackmore. Preface.

Hippocrates, in tracing, with detailed accuracy, the history, the symptoms, and all the concomitant phenomena of diseases : he had also studied the works of Bacon ; from whom he learned, that inferences should be deduced from facts and experiments. These two superior men are quoted by Sydenham in his preface ; and the principles by which he investigated diseases were evidently acquired from them.

He inculcated the laying aside all hypotheses, and usually practised the rules he gave, except however in admitting a few relicks of those humoral doctrines, which had been infused into Pathology by Galen.

He prudently avoided censuring others ; but quietly effaced their erroneous opinions by pointing out a new and superior practice, founded on observation.

Sydenham's description of Small Pox and Measles is such, that subsequent writers have been unable to make any material addition to it ; they have done little else than vary the arrangement and the language, according to their taste. These two diseases, which had been so long united, were now disjoined for ever : the Measles, with their ophthalmic and pneumonic symptoms, were henceforth treated separately, and shall in future be omitted here.

The Small Pox was divided by Sydenham into two species, the distinct and the confluent; which are discriminated as well as the varying shades of diseases allow; and the regular course of the symptoms, together with the deviations and anomalous occurrences, were all faithfully narrated. Among a number of new remarks he stated, that the danger of the disease was rather to be estimated from a multitude of pustules crowding the face, than from the collective number on the body; and also, that the mildness or malignity of the disease was chiefly to be prognosticated from the favourable or unfavourable appearance of the pustules on the face. And, besides the correctness of his descriptive observations, he made many important remarks upon the effects of the prevailing treatment.

He noticed how often the event disappointed the expectations. For in the distinct Small Pox, when profuse sweating had broke out from the beginning, according to the wishes of the physician; and when it was carefully continued by cardiac remedies, and a hot regimen, raising expectations that the morbid particles were duly eliminated; notwithstanding which, on the eighth day the face was apt to be found pale, flaccid, and sunk; the sweating ceased suddenly, and could not be re-excited by the

hottest cordials ; anxiety, restlessness, and phrensy ensued, and in a few hours the patient expired.

In the confluent Small Pox, when the same indications were strenuously pursued, that on the eleventh day the salivation was wont to cease, and the swelling of the face to subside ; in which case the patient necessarily perished. Others were suffocated by the saliva getting into the lungs.

He enumerated a train of deleterious symptoms, common to both the distinct and confluent Small Pox, which were conceived to proceed from a violent ebullition, or a relaxed texture of the blood ; these were phrensy, coma, purple spots similar to those of the plague, bloody urine, and hemorrhage from the lungs.

There were also another set of symptoms, of an opposite nature ; which sometimes, though very rarely occurred, when an opposite treatment had been pursued.

If the patient should have been exposed to intense cold, or blooded and purged to excess, the pustules were then wont to become depressed, and a diarrhea of the most dangerous kind to take place.

After detailing every circumstance of moment, Sydenham neither explains them by repeating the old theories, nor strains his imagina-

tion to invent a new one : but frankly * acknowledges, that from a defect both of his own judgment and of that of the rest of mankind, he is ignorant of the essence of the disease. He then unluckily adds, that the symptoms appear to indicate, that there is a peculiar inflammation of the blood and humours, during which nature digests and concocts the inflamed particles ; which, when ripened, are expelled from the body in the form of little abscesses.

These notions of concoction and expulsion are unrejected remains of Galen's theory of fever ; which still lurked even in the mind of Sydenham, though with trifling influence ; for instead of bending his treatment to these ideas, he twisted them round to that practice which he had observed was most successful.

The fatality of Small Pox was a melancholy truth admitted by all ; yet was not a ground for

* “ Qualis vero sit hujus morbi essentia, ob naturalem et
 “ communem mihi cum reliquis hominibus intellectus defectum,
 “ nescire plane me fateor ; verum tamen, prædicta symptomata
 “ pensiculatim trutinata mihi videntur subindicare, inflammati-
 “ onem eam esse (a cæteris tamen inflammationibus specie
 “ diversam) tum sanguinis, tum reliquorum humorum, in qua
 “ amolienda, per dies priores duos tresve id agit Natura, ut
 “ particulas inflammatas digeret, coquatque, quas postea in
 “ corporis habitum abligatas maturat adhuc, et sub abscessulo-
 “ rum forma suis demum finibus expellit.” P. 142. Thom.
 Sydenham, M.D. Opera Ludg. Batav. 1741.

casting doubts upon the wisdom of the established treatment. But Sydenham remarked with surprise, that when the prescribed medicines and regimen produced their intended operation, and when every indication was accomplished, instead of an alleviation, an exacerbation of the symptoms followed. He likewise perceived, that the mortality of the disease was greater, in proportion as the plan for warding off death was more strenuously pursued. For the poor, who were unable to purchase the expensive sudorifics, and who, from necessity, were neglected, recovered more frequently than the rich; though the latter were abundantly drugged, and tended by careful nurses, who covered them well with blankets, and preserved their chambers close and warm.

In developing his observations, he animadverted upon the over-assiduity of the nurses and friends of the sick; and by an oblivion of the physicians, he shunned dwelling upon their guiltless errors. Yet, notwithstanding this respectful delicacy, he was calumniated by the invidious portion of the medical tribe, as an impostor and a homicide. But even the names of these miscreants have long been forgotten, and their fugitive scurrility is only known by his mild reply, included in the epistle to his friend Dr. Cole.

All the alterations proposed by Sydenham in the management of the Small Pox were not

announced at first, but were gradually disclosed in his successive publications.

Instead of confining his patients to a hot bed from the commencement of the malady; he indulged them in remaining up through the day, until the malady was so far advanced that they preferred lying quiet. He also allowed them the enjoyment of breathing fresher air, and of lighter bed coverings. When the patient * from the violence of the fever was seized with frenzy, he urged the necessity of exposing them freely even to cold air. He declared, that he had seen innumerable examples of persons rescued from death by this practice. Many, he added, saved themselves by deceiving the vigilance of their nurses, by getting out of their beds secretly in the night, and exposing their bodies to the fresh air. An extraordinary instance is related of the benefit of this practice. A young man had travelled to Bristol, and in the heat of summer was seized with the Small Pox. The disease was so violent, that after becoming delirious, he fell into a state of such complete insensibility, that he was believed to be dead. It was then judged to be expedient, on account of his corpulency, the eruption, and the heat of the weather, to remove the corpse from the bed. The body was accordingly lifted up, and placed

* Loco citat. p. 158.

on a table covered only with a sheet. Soon after which some indications of life re-appeared; when he was again put to bed, and recovered.

Sydenham not only prohibited hot air, and bed coverings; but also wine, meat, and all cardiac and sweating medicines. He recommended gruel, barley-water, small beer with the chill taken off by a toast, and other refreshing drinks.

The remedies chiefly recommended, were moderate bleedings, an antimonial emetic when the fever ran high, drinks acidulated with vitriolic acid, and opiates. Perspiration was always to be discouraged: but should the pustules become depressed, or should there appear a want of corporal energy, a little wine, or some cordial medicine with an opiate, was recommended. Blisters were also sometimes directed with a similar view. It had long been an established practice, not to purge till the Small Pox was nearly over, lest the humours should be drawn from the circumference of the body to the internal parts. Sydenham seems to have been long deterred by the prevailing custom, though he contemned the reason. But in his letter to Dr. Cole, one of his latest works, he observes, “ that bleeding was not so effectual, in limiting the symptoms of Small Pox as he had formerly believed: but he had often noticed, that repeated purging had

“ rendered the pustules, when they broke out,
 “ distinct and favorable *.”

It is requisite to mention, though it is done with regret, that in the latter stage of the confluent Small Pox when the danger was imminent, this penetrating physician recommended copious bleeding; which evinces the amazing difficulty of discerning effects in the practice of physic.

The brilliancy of Sydenham's reputation was not obscured by the labors of his immediate successors: yet ETMULLER was distinguished even in Germany for his industry. He was born at Leipsic in 1646, and died in 1683, at thirty-seven years of age: and during that short life he studied intensely, acquired the professorships of chemistry, botany, and anatomy; practised physic, and composed five Latin folios on medicine.

Reading and writing so much, left little time for making observations: yet there may be found, scattered through his compilations, some unborrowed thoughts.

He enumerates, and reprobates, the old vi-

* “ Atque hinc mihi primum innotuit, Phibotomiam non
 “ perinde, atque ego prius arbitrabar, Variolas intra justos
 “ limites coercendis conducere: Tametsi sæpenumero observa-
 “ verim, reiteratim catharsin, sanguine nondum inquinato,
 “ subsequentes Variolas laudabiles, et distinctas ut plurimum,
 “ reddidisse.” *Dissertat. Epistol. Sydenhami*, p. 361.

sionary causes of the Small Pox and Measles. He also mentions that these diseases were believed by some to arise from excesses in conjugal love : a notion which he thought rather improbable*, and gave the preference to the acid acrimony of Sylvius : yet he would not allow that this acid was formed from female blood ; but believed it to be the product of milk drunk by the infant, both before and after birth. This milk is next supposed always to become corrupted, and to produce a viscid-acid refuse : from which, by febrile fermentation, the Small Pox and Measles arise.

Etmuller asserted, and not from inadvertency, that infants swallowed milk in the womb ; but as he knew that they were sometimes born with the Small Pox upon them ; it was requisite either to make that assertion, or to abandon his hypotheses. Theorists rarely

* “ Non videatur eorum sententia probabilis, qui dicunt,
 “ quod (Variolæ et Morbilli) oriantur ex repetito coitu post
 “ factam jam conceptionem, cum post conceptionem uterus
 “ firmissime claudatur, nec quicquam amplius Embryopi ab
 “ extra communicari queat. Ac proinde suspicor : fundamen-
 “ tum Variolarum et Morbillorum consistere in lacte, quod
 “ haurit fœtus nunc in utero, nunc extra uterum : ita ut lactis
 “ vitiosi inquinati, aut vitiose coagulati recrementa acida-vis-
 “ cida sint quasi radix, ut per mutuam effervescentiam feбри-
 “ lem oriantur Variolæ et Morbilli.” Mich. Etmuller. Oper.
 tom. ii. par. i. p. 346. Franc. 1708.

demur at such a dilemma. But notwithstanding this new theory, his practice is principally drawn from Sennert; and he bestows extravagant commendations on myrrh and castor, as powerful expellers of the lacteal acid.

He also recommends a beverage very different from orangeade, lemonade, or the juice of other grateful fruits, which are now in use; and which must have been disgusting even to those who were scorched with a burning fever, perspiring at every pore, and parched with thirst.

It turns the stomach to confess that this physician advised as common drink*, an infusion of horse dung; declaring also that sheep's dung was preferable in the Small Pox, and goat's dung in the Measles.

One is tempted, on reading this nauseous advice, to wish he had been drowned in his own beverage.

DOLÆUS published in 1684 a Medical Encyclopedia, in which the most noted theories on Small Pox and Measles are detailed. He assented to the opinion of Sylvius, that the

* “ Dictis usibus nisi superflue delicati in remediorum selectu esse velimus similiter Infusio stercore equini potu ordinario mire conducit; Stercoris tamen ovilli usus huic adhuc præferendus est in Variolis; sicut in Morbillis caprillum eminet.” Lib. citat. tom. ii. par. ii. p. 551.

cause of these diseases, was an acid; he also approves of the addition made by Etmuller, that the acid was produced by milk: to which he superadded a conjecture of his own, that the acid was of a volatile and not of a fixt nature.*

This he seemed to think rendered the theory quite perfect: and it led him to the invention of an antivariolous liquor, by which he boasted he had cured more than a thousand persons, and that no variolous patient who used it had hitherto died.

But Dolæus was no quack, for he fairly communicated his nostrum, which † consisted of

* “ Suspisor tamen Variolas esse ex acido salino volatili, acri, quod ex contagio apparet, non idem ab acido fixiori sperandum.” Dolei Opera. tom. i. p. 432. Franc. 1703.

† “ R_x Aq. ‡ C. C. citr. ʒij

Succ. Citr. ʒss

Detur cochlearim in potu ordinar. cerev. ten.”

Loco citat. p. 438.

‡ “ Aq. Cornu Cervi Citrat.

R_x Rasur. Corn. Cerv. ʒri

Pomorum Citri cum corticibus incisorum, No IV Infunda per nycthemeron.

Aq. Rosarum

Scabiosæ

Acetosæ

Cardui benedicti

Melissæ

Seordi ana Hj

Postea distilla ad quartæ partis remanentium.

Dosis uncia una ad duas.” Pharm. Wirtemberg. 1750.

an innocent perfumed water, mixed with lemon juice.

The two last mentioned authors neither improved the doctrines of Small Pox, nor profited by the improvements made by Sydenham.

HERMAN BOERHAAVE was born in 1668 near Leyden, and became a distinguished author in the beginning of the eighteenth century. He endeavoured to simplify the study of medicine, and to form a systematic classification of diseases, by his concise and comprehensive aphorisms. This was a work of genius; in which, among other doctrines, he considered the causes, symptoms, terminations, and treatment, of inflammation in the abstract; thus including, in one view, the general principles of a great proportion of the diseases which afflict the human body.

Boerhaave felt an admiration for Sydenham, and owned that he could add little to his correct description of Small Pox, which merited being read over ten times. Then, instead of guessing at the first cause of that malady, he proceeds to topics more fitted to the human capacity; and states that the Small Pox is an epidemical disease, arising from contagion, disseminated from the bodies of those infected with it. In addition to the symptoms detailed by Sydenham, he re-

marked, that blood drawn from a vein at the beginning of the distemper, had a natural appearance; but that which was extracted subsequently, resembled the blood of persons labouring under a pleurisy, or any other inflammatory malady. He observed, that the symptoms of the variolous fever bore so close a resemblance to those of acute inflammation, that, at the first attack, it could only be predicted from its prevailing as an epidemic, or from the patient having been exposed to the contagion. From which this practical inference was deduced, that the same indications were to be pursued in the Small Pox as in acute inflammation. The inflammatory stimulus is first to be removed; the progress of the malady is then to be stopt or impeded; and lastly, should it still proceed, the evils resulting from suppuration and gangrene are to be guarded against.

He entertained an idea that possibly the contagious poison might be overcome and the disease cured by a specific; and perhaps that some combination of antimony and mercury would prove such. But independent of this, that the inflammatory disposition, in the first stage of the Small Pox, was to be controlled by bleeding, aperients, and fomentations; by demulcent, acid, and nitrous drinks; by mild antimonial, saline, and diuretic medicines; and by a slender diet: all which constituted what he

termed the antiphlogistic regimen. Cold air was to be admitted for breathing; but the body was to be kept well covered and perspirable.

Boerhaave having perceived, that by this treatment simple inflammation was sometimes dispersed, and suppuration entirely prevented; he concluded that the progress of the Small Pox might also be interrupted with safety; and the disease might sometimes be put a stop to, without the formation of a single pustule.

In the second stage, when the symptoms became violent, and the eruption tended to confluency, then every precaution was to be used to moderate the suppuration, and to withdraw it from the head. With these designs, in addition to the former remedies, the feet were to be bathed in hot water, and fomentations and blisters to be applied to the lower extremities. At the same time cold pure air was to be admitted into the patient's chamber, and the lower part of the body to be warmly covered. Opiates also were recommended to be given at night.

When the eruption was at the height, and the pustules are bursting or discharging, there is usually an augmentation of fever, and other alarming symptoms; this he considered as the third stage. To account for which, Boerhaave fell into the ancient error, and framed a new

hypothesis, that this exacerbation was owing to an absorption of pus by the veins.

To remedy which he was of opinion, that the pus ought to be evacuated externally, and every care taken to prevent its being thrown inwards; fomentations were therefore to be applied to the skin, and the mouth and throat to be washed frequently with gargles. The antiphlogistic regimen was then to be entirely discontinued; instead of which he advised cordial, aperient, antiputrescent, and opiate medicines; and the diet to consist of broth or soup, with salt and acids; wine also was to be administered.

The whole of this plan was made to correspond with Boerhaave's general doctrine of inflammation: those instructions which were founded upon hypothetical reasoning, were necessarily erroneous, particularly the hot fomentations and coverings to the body; but the exhibition of aperients at the beginning of the disease, and the changing the antiphlogistic for a cordial regimen, towards the conclusion of the confluent Small Pox, were essential improvements of Sydenham's practice.

CHAP. VIII.

THE DISCOVERY OF INOCULATION, AND THE OPPOSITION IT ENCOUNTERED.

THE plans to mitigate the Small Pox, which have hitherto been shewn, were devised by physicians. But at the beginning of the eighteenth century, there was communicated to the Royal Society of London, a discovery to which the Faculty can lay no claim ; and as it was brought to England from Constantinople, it was at first named the Byzantine operation, although certainly not invented there.

According to medical authorities in China, the custom of sowing the Small Pox, which is in some degree analogous to inoculation, had been long in use. Father D'Entrecolles * was of opinion that it was introduced about the sixteenth century; but other Missionaries† assure

* Lettres Edifiantes et Curieuses ecrites par des Missionnaires. Paris, 1781. tom. xviii. p. 353. tom. xxi.

† Memoires concernant L'Histoire, les Sciences, &c. des Chinois, par les Missionnaires de Pekin. Tom. iv. p. 392.

us, that the practice was invented in the tenth ; and there is a tradition that it began as early as the dynasty of Song, which was in the year of Christ 590.

These different dates perhaps may be accounted for, from the practice having been long kept secret ; and it appears neither to have been very general, nor much approved of in China.

No account is handed down of the origin of this custom ; but the reverence in which agriculture is held by the Chinese, may have suggested the name, and the usual manner of performing the operation. For they took a few dried Small Pox crusts, as if they were seeds, and planted them in the nose. A bit of musk was added, in order to correct the virulence of the poison, and perhaps to perfume the crusts ; and the whole was wrapt in a little cotton, to prevent its dropping out of the nostril.

The crusts employed were always taken from a healthy person, who had had the Small Pox favourably ; and, with the vain hope of mitigating their acrimony, they were sometimes kept in close jars for years, and at other times were fumigated with salutary plants. Some physicians beat the crusts into powder, and advised their patients to take a pinch of this snuff ; and when they could not prevail upon them, they mixed it with water into a paste, and applied it in that form.

These practices, however ancient, and the consequent treatment, which is not worth relating, are proofs that knowledge is not to be attained by time alone.

In Hindostan, * if tradition may be relied upon, inoculation itself has been practised from remote antiquity. This practice was in the hands of a particular tribe of Bramins, who were delegated from various religious colleges, and who travelled through the provinces for that purpose. The natives were strictly enjoined to abstain during a month, preparatory to the operation, from milk and butter; and when the Arabians and Portuguese appeared in that country, they were prohibited from taking animal food also.

Men were commonly inoculated on the arm, but the girls not liking to have their arms disfigured, chose that it should be done low on the shoulders. But whatever part was fixed upon, was well rubbed with a piece of cloth, which afterwards became a perquisite of the Bramin; he then made a few slight scratches on the skin, with a sharp instrument, and took a little bit of

* *Essai Apologetique sur la Methode de communiquer la petite verole par inoculation.* M. Chais.

An Account of the manner of Inoculating in the East Indies, by J. Z. Holwell, F.R.S. London, 1767.

cotton, which had been soaked the preceding year in variolous matter, moistened it with a drop or two of the holy water of the Ganges, and bound it upon the punctures. During the whole of this ceremony, the Bramin always preserved a solemn countenance, and recited the prayers appointed in the Attharva Veda, to propitiate the Goddess who superintends the Small Pox.

The Bramin then gave his instructions which were religiously observed. In six hours the bandage was to be taken off, and the pledget to be allowed to drop spontaneously. Early next morning cold water was to be poured upon the patient's head and shoulders, and this was to be repeated until the fever came on. The ablution was then to be omitted; but as soon as the eruption appeared, it was to be resumed, and persevered in every morning and evening, till the crusts should fall off. Whenever the pustules should begin to change their colour they were all to be opened with a fine pointed thorn.

Confinement to the house was absolutely forbidden; the inoculated were to be freely exposed to every air that blew; but when the fever was upon them, they were sometimes permitted to lie on a mat at the door.

Their regimen was to consist of the most refrigerating productions of the climate; as plan-

tains, water melons, thin gruel made of rice, or poppy seeds, cold water, and rice.

A small present was made to the Bramin, who always laid an injunction on the family to make a thanksgiving offering to the Goddess upon their recovery.

It is curious to consider how a treatment so admirable, and so superior to those which Arabian and European learning had laboriously constructed, should have been found out by these simple and superstitious Bramins.

And although it is never admissible to frame suppositions in order to explain the operations of Nature, yet, in the absence of facts, we may advance conjectures on human inventions; because one man may be capable of penetrating the motives which influenced another.

It could not long escape observation, that the Small Pox was infectious; and that in some seasons this infection was most destructive, and in others very mild. A plain man whose head was not perplexed with abstruse theories, might think that possibly a mild Small Pox could be excited by matter taken from a favorable case; and that it was advisable to anticipate the evil in a healthy season, rather than risk the being seized afterwards with a malignant species of Small Pox.

Should he determine to make the trial, it

might also occur to employ such a regimen as had been found useful in other fevers, and which was most grateful to the sick.

Cooling fruits and drinks, streams of cold water, and currents of air, are delightful in India; and experience would confirm what Nature suggested. A Bramin also would find it easy and profitable to make a superstitious people believe, that the whole benefit proceeded from their influence with any Idol they selected. But the strict regimen, and the regulated cold bathing which they enforced, render their faith in the Idol problematical.

It appears from a number of travellers*, that inoculation was long practiced in Persia, Armenia, Georgia, and Greece, without its being known where it originated. But in the opinion of many, especially of a Patriarch of Constantinople, it began in the desarts of Arabia; where neither physicians nor priests officiated; the *practice* being monopolised by old women. Nor is this inexplicable. †

If a mother whose children had been all

* Shaw's Travels into Barbary and the Levant. Scheuchzer's Account of the Success of Inoculating in Great Britain. Memoire sur Inoculation par M. De la Condamine.

† Philos. Trans. vol. lvi. p. 140. Medical Observat. and Inquir. vol. i. p. 227.

swept off by a malignant kind of Small Pox, should afterwards bear another child; with the hope of preserving it from a similar fate, she might be tempted to infect it from the child of a friend who had caught a mild disease: and a needle was a natural instrument for a woman to use. *

The operation was variously performed, and on different parts of the body, in the several countries where it was introduced: but it always consisted in scratching or puncturing the skin, and inserting into the wound variolous matter. The Circassians † to make sure work employed three needles tied together, and pricked the body in five different places, inserting matter in them all.

This operation, however performed, was in all these last named countries called *buying the*

* Dr. Terry to Sir Hans Sloane. MSS. British Museum. Ayscough's Catal. No. 4063. Woodville's History of Small Pox. De la Motraye's Travels. vol. ii. p. 75. Desar de l'Arabie, p. 75. Niebuhr.

† De la Motraye's Travels. Medic. Obser. and Inquit. vol. i. p. 227. Method of Success in New England. D. Neal Historia insitionis Variolarum in Succia. Schuttz's Account of Inoculation. Ephem. German. An. ii. A. D. 1671. Ob. 165. Philosoph. Transact. for the year 1722. Dr. Jurin's Letter to Caleb Cotesworth, giving an account of the Success of Inoculation in 1723. Histor. of Inoculat. by Woodville.

Small Pox: which proceeded from the ceremony in use of one child carrying to the other a few dates, raisins, or sugar plums, the pretended price of the matter. This was probably an artifice to amuse the children, and to reconcile them to the operation: and so popular was this custom, that in the seventeenth century the practice denominated buying the Small Pox, had obscurely spread among the common people along the coast of Africa, to Tripoli, Tunis, Algiers, and as far as Senegal.

It also had passed over into Italy, France, Germany, Sweden, and Denmark; and had even reached South Wales. For in all those countries inoculation was practised by the peasants, and universally termed buying the Small Pox, which marked its eastern origin.

In the north of Scotland, the old * Highland women frequently infected children by putting them to bed with a healthy child who had the Small Pox favourably; or on other occasions tied around the children's wrists, worsted threads soaked with variolous matter. And if there were any pimples accidentally upon their hands, which in former times was not unusual in the High-

* Inoculation in Scotland, by Dr. Monro.

lands, there would be no necessity for making a scratch with a lancet to secure infection.

It is certainly singular that all these methods of communicating the Small Pox should have been in use in so many countries, yet have remained unknown to the medical profession. The variety of modes of operating affords a presumption that the practice had not one common origin. The inventors indeed had little merit ; since no satisfactory reason has yet been discovered, for the inoculated disease being milder than the casual.

About the year 1703, the rumor of the great success of this operation at Constantinople attracted the attention of Dr. Emanuel Timoni, a Greek, who had studied and graduated at Oxford and Padua. After which he settled in Constantinople, his native city ; and being struck with this mode of preventing the dangers of Small Pox, he wrote in the year 1713 an account of the discovery to his English correspondent, Dr. Woodward ; which in the following year was published in the Philosophical Transactions.*

About the same time the Venetian Government had appointed Signor Pylarini, a physician, to be their consul at Smyrna ; who having also

* Philosophical Transactions, 1714. 1716.

learnt the Turkish practice, published * an account of it at Venice in the year 1715. This also appeared in the Philosophical Transactions: and these foreign accounts were confirmed by Mr. Kennedy, an English surgeon, who had travelled into Turkey: the operation was named by him † Engrafting the Small Pox.

Notwithstanding the warm recommendation of these three respectable medical gentlemen; who, from Turkish testimonials, greatly exaggerated the advantages of inoculation; no Englishman ever thought of trying it. But soon afterwards, it accidentally happened that Lady Mary Wortley Montague, then blooming in beauty, travelled into Turkey, with her husband, the ambassador to the Ottoman Court, in her train. His dispatches continue secret; but the lively correspondence of this embassadress, was blazoned through Europe ‡. In one of those celebrated Letters dated from Adrianople, 1717, she mentions that there were in that city a set of old women, who every autumn engrafted children with the Small Pox: that the

* Nova et tuta variolas excitandi per Transplantationem methodus. Jacob Pylarini. Venet. 1715.

† An Essay on External Remedies, &c. by P. Kennedy, Chirurg. Med. Lond. 1715.

‡ Letters of Lady M——y W——y M——c. Letter xxxi. April 1st, 1717.

children continued to play about till the fever arose; which was so slight, that they were hardly made ill by it; and there was no example of any one dying. She therefore was resolved to have her own son engrafted, and she expressed a patriotic resolution of bringing this most useful invention to England. She would even have explained it to some physician, if she had known any one of them that had virtue enough to destroy so considerable a branch of their revenue for the good of mankind. The event shewed, that though this brilliant lady under-rated the morals of physicians, she did not overrate her own influence in leading the fashion: for she actually effected a complete revolution in the practice of Small Pox all over Europe.

The engraftment of her son having succeeded; after Lady M. Wortley M. returned to London, in 1722, she sent for Mr. Maitland *, her surgeon, who had attended the boy at Constantinople; and desired him to engraft her daughter with Small Pox.

He solicited a delay, on account of the wea-

* Mr. Maitland's Account of inoculating the Small Pox, 1723. History of Inoculation, Woodville. Essay on the Small Pox, by Dr. Douglas.

ther, and entreated that two physicians should be consulted. These requests were refused, yet he obeyed her Ladyship's injunctions: but when the fever commenced, an old family apothecary and three physicians were permitted to witness the process. As the success was complete, Dr. Keith, one of the above physicians, was tempted to request Mr. Maitland to engraft his child also, which likewise succeeded; and these cases were rumoured through the town.

The profession still remained in suspense, and caution prevented the repetition of the experiment.

As, however, females are often bold in the practice of physic, Caroline Princess of Wales * was desirous of having her children inoculated: she was the more inclined, as one of her daughters, the Princess Anne, had nearly lost her life by the Small Pox. But not venturing to rely solely upon the medical skill of Lady Mary Wortley Montague, Her Royal Highness obtained from George the First, that six condemned felons should be pardoned, for the good of the public, on condition of their submitting to be inoculated.

Neither the legality nor the morality of this unprecedented act were questioned, and still

* Philosophic. Transact. vol. xlix.

less did the criminals demur ; but an unlooked-for obstacle occurred ; the surgeon refused to perform the operation. For notwithstanding his former success, he dreaded a failure ; and of being stigmatised for doing the work of the executioner.

In this dilemma, Sir Hans Sloane, the Court physician, applied to Dr. Terry, who had practised physic in Constantinople : and he wrote in reply the following letter.

“ Most worthy Sir,

“ Since my writing to you, upon reflection,
“ I imagined I had made some memoranda of
“ the information I had received, which, in
“ looking for, I found to be so ; desirous of
“ giving you an account with as much exactness
“ as I may, believing you would not receive it
“ amiss, I send them transcribed as I then
“ wrote them.

“ In the year 1706 the Small Pox were very
“ much among the inhabitants of Constantinople,
“ Pera, and Galata *, and fatal to the greatest
“ part, which created terrible apprehensions
“ in such as were liable to them. A Greek
“ woman, native of the Morea, introduced an
“ expedient which was the preservation of

* “ Names of suburbs inhabited chiefly by Christians.”

“ many. She made a small incision under the
“ skin, in several parts of the body, fit to re-
“ ceive the dry crust of a pustule, taken from a
“ person in a state of recovery, to the number
“ of eight or so. In a short time the patient
“ would feel the symptoms of the disease, which
“ were always favourable. And in 4000 which
“ had experienced it, not one miscarried.

“ I have been informed of another manner of
“ effecting it. They * prick the skin in three
“ or four places, about the circumference of a
“ shilling, and rub it with the humour ta-
“ ken from some digested pustules. In the
“ course of the disease, these places are much
“ inflamed, ulcerate, and discharge a quantity
“ of matter, while the other parts of the body are
“ little affected.

“ From an authentic person, the Patriarch, I
“ am informed, that this custom was originally,
“ and has been long in use among the Arabs
“ of the desert. When a child is ill, and
“ the pustules begin to suppurate, they bring
“ their other children together, and prick the
“ skin with fine needles to make it bleed, the
“ space of a silver two-pence; and rub the
“ matter upon it, that it may penetrate. This

* “ This method was used with the two persons I mentioned
“ to have seen in Constantinople.”

“ they do in four or five parts of the body in-
“ differently, which occasions in a few days the
“ fever and eruption. I am, Sir, &c. &c.

“ E. TERRY. *

“ *Enfield, 2d Aug.*”

The perusal of this letter quieted Mr. Maitland's scruples, and he consented to inflict upon the convicts in the cells of Newgate the mitigated punishment of inoculation. When

Five of the felons contracted the Small Pox favourably: the sixth, who concealed having previously had the Small Pox, was not infected; but all escaped hanging. A seventh criminal was likewise pardoned, on the easy terms of having a few Small Pox crusts put up her nostrils, according to the Chinese mode, at the suggestion of Dr. Mead, and only a sore nose was the consequence.

This success encouraged Mr. Maitland to inoculate some others; by the event of which it appeared, that the inoculated Small Pox was sometimes severe; and he was amazed to find, that the artificial disease was as infectious as the casual. This was a circumstance totally unexpected, and it ought to have induced the

* Ayscough's Catalogue, British Museum, No. 4063.
Original letters to Sir Hans Sloane.

profession to pause e'er they proceeded; or at least to have prompted them never to inoculate without adequate measures being adopted to prevent the infection spreading to others. The neglect of this easy precaution, has occasioned the loss of millions of lives.

Mr. Maitland's publication was immediately followed by an account * of forty persons having been successfully inoculated by Dr. Nettleton, at Halifax, in Yorkshire. This physician, unfortunately, was imbued with the old notion of humours; and he attributed much of his success to his peculiar method of operating. Instead of small punctures, he made an incision through the skin; near an inch in length, in one arm, and in the opposite leg: bits of cotton, charged with variolous pus, were then introduced into the wounds, and confined by plasters and rollers. The Doctor boasted of procuring by those means a plentiful discharge: he in fact excited two foul ulcers, which were considered of great utility; and obviated a theoretical objection which had been made to inoculation, that the peccant matter was not sufficiently evacuated. This plan was adopted generally,

* An account of the success of inoculating the Small Pox; in a letter to Dr. Whitaker, by Dr. Nettleton. Halifax, April 3d, 1722.

and even Mr. Maitland was at last driven from the Byzantine method of making slight punctures, to this more cruel and mischievous operation.

The Princess of Wales was now eager to begin, and too impatient to wait for voluntary proofs of the safety of inoculation. Orders* were therefore given, that it should be tried on the charity children of St. James's parish. The experiment was accordingly made upon eleven of them, who all did well.

The Princess being now resolved to have her daughters inoculated, consulted Sir Hans Sloane, on the propriety of the measure; who prudently answered, that in the several essays which had been made, inoculation did seem a method of securing people from the great dangers attending Small Pox; but not being certain of the consequences that might ensue, he could not advise making trials upon persons of such importance to the public. The Princess then asked slyly, "If he would dissuade her from it?" But Sir Hans warily answered, "that he would not, as it was likely to be of advantage." "Then," rejoined the Princess, "I am resolved it shall be done."

* Philos. Transactions, vol. xlix. p. 516. Historical Register, for the year 1722.

Sir Hans was commanded to wait upon the King; but as he was determined to give no advice, he represented to His Majesty, “that it was impossible to be certain, but that on raising such a commotion in the blood there might happen dangerous accidents not foreseen.” “Why,” said the King, “these might happen from taking physic in any other distemper.” Sir Hans admitted the justness of the royal argument, and was content to be refuted on a medical point by His Majesty. The physician having thus secured himself from all responsibility, the ~~Serjeant~~ Serjeant-surgeon, Amyand, inoculated the two Princesses, Amelia and Carolina; and the Small Pox proved of a benign sort.

This example had some effect, and the practice spread; when it soon appeared, that the favourable reports from Constantinople were exaggerations: for it was found, upon trial, that the inoculated Small Pox was occasionally severe, and sometimes fatal. In the first eight years, only 845 persons were inoculated in England, seventeen of whom died, among others one of the sons of the Earl of Sunderland. This amounted to one death in fifty inoculations. But in Boston * in

* An historical Account of the Small Pox Inoculation in New England, &c. by Z. Boylston, 1726.

New England, the incipient trials were even less successful *: for one case, out of forty-five of the inoculated, proved fatal. The deaths which occurred, together with some misrepresentations which were published in that city, raised such a clamour against inoculation, that it was for some time prohibited there by the civil power.

Although these failures were partly attributed to causes independent of Small Pox, they were a great disappointment: yet as they were still much fewer than the deaths from casual Small Pox, the practice was persevered in, though not without a very furious opposition.

* *An Account of the Success of inoculating Small Pox in 1721, 1722, and 1723. 1725. and a Letter to Caleb Cotteworth, by James Jurin, M. D. Woodville's History of Inoculation.*

CHAP. IX.

INOCULATION OPPOSED, AND ADVANCES SLOWLY.
ALTERATIONS IN THE TREATMENT OF SMALL POX.

ALTHOUGH medical men often err, perhaps it is most advisable to leave medical points to be decided by them ; because the wrong paths being innumerable, other persons could never hit the right one. Yet some zealous churchmen, conceiving that Inoculation was repugnant to religion, thought it their duty to interfere ; on which the sparks of controversial animosity, which had before been kindled, were instantly blown up into a flame.

They wrote and preached *, that Inoculation was a daring attempt to interrupt the eternal decrees of Providence ; no man having a right to inflict a disease upon himself, or to assent to this being done by another : for should he,

* The new Practice of Inoculation considered, and an humble application to Parliament for the regulation of that dangerous experiment. London, 1722.

by this means, be hurried prematurely out of the world, he would be absolutely guilty of suicide. But when this was done upon infants who could give no assent, and who knew not the danger they were exposed to, if death ensued, the perpetrators had committed infanticide, and the fathers and mothers were all involved in guilt, and consigned to remorse.

Besides these charges, a pious clergyman * denounced from the pulpit of St. Andrew's church, Holborn, that all who infused the venomous variolous ferment into the blood, were hellish sorcerers :: for Inoculation was the diabolical invention of Satan, who smote with boils, from the sole of his foot to the crown of his head, the upright and patient Job. But even this was exceeded by one of the Rectors of Canterbury †, who, in a vehement sermon, denounced with pious horror, Inoculation as the offspring of Atheism!

These dreadful anathemas were opposed by

* A sermon by the Rev. Mr. Massey, against the dangerous and sinful practice of Inoculation, July 8th, 1722.

† A discourse against inoculating the Small Pox, with a parallel between the Scripture notion of Divine Resignation, and the modern practice of Inoculation, 1751.

Inoculation an indefensible practice, by the Rev. Theodore de la Faye, Rector of St. Mildred's and All Saints, Canterbury, 1753. A Vindication of a Sermon, &c. by D. la Faye.

some enlightened ecclesiastics, who were highly considered by the country.

Dr. Maddox, the Bishop of Worcester, Dr. Doddridge, and other learned and sensible clergymen, being convinced by medical calculations and arguments, that Inoculation ultimately tended to the preservation of human life; they maintained, that this operation was not only void of sin, but that it was the bounden duty of Christians to encourage it to the utmost of their power *. Their arguments being supported by scriptural citations, influenced some persons, and their authority had weight with others; but the mass of the population were unmoved; and many to this day remain in the unalterable belief, that whether Inoculation kills or saves, it is sinful. Besides, the latter class of clergymen laboured under a great disadvantage: for they exhorted the people to the performance of an act, by which they were to suffer an immediate inconvenience, expence, and danger; whereas their antagonists advised

* Sermon by Dr. Maddox, Bishop of Worcester, for the benefit of the Small Pox Hospital, 1752. See Woodville's History, p. 239. — The case of receiving the Small Pox by Inoculation, impartially considered, and especially in a religious view, written by the Rev. Mr. David, of Harborough, and published by P. Doddridge, D. D. 1750.

them simply to do nothing. The latter counsel was much the easiest to follow.

The medical opponents of Inoculation were more reasonable, than its theological enemies; though some of them were defective in candor and liberality. For * they misrepresented and falsified cases; cavilled at authentic statements; denied that the inoculated had caught the Small Pox, or that inoculation prevented the real Small Pox recurring: and asserted that it had frequently caused a variety of eruptions, bad humours and death. To contrast with these disasters, they gave most flattering accounts of their own distinguished success in treating the casual Small Pox.

These dishonest arts were repeatedly exposed, yet they still made an impression upon the public.

But there were many respectable † physicians

* Reasons against the practice of Inoculating the Small Pox, by L. Sparham, Surgeon. A Short and Plain Account of Inoculation, &c. by Isaac Massey. Historical Essay on the Rise and Progress of the Small Pox, by Dr. Clinch. Vide Woodville's History, p. 132 to 144. An Answer to a Pamphlet, entitled Reasons why the Practice of Inoculation, &c. by Mart. Warren, M. D.

† Letter shewing the Danger and Uncertainty of Inoculating the Small Pox, by Dr. Wagstaffe. Reasons against the Inoculation, &c. by Mr. Norgrove. Treatise on the Small Pox, by Sir Richard Blackmore. Remarks on Dr. Jurin's

who objected, from conviction, and considered it safer to conform to ancient precepts, and to follow that practice which had been established by the experience of ages, than rashly to plunge into this eastern innovation. As no reason had been advanced to shew, why the inoculated should be milder than the natural Small Pox, they disbelieved the fact; and recalled to the remembrance of the public, that by the first accounts from Constantinople, inoculation had been described as perfectly safe: but that on trial by the most skillful, the confluent Small Pox and death had occurred in many instances. And with regard to the calculations which were instituted to prove the superior safety of inoculation, that they had been made upon a false principle. Because the patients for inoculation had been selected confessedly on account of their being in perfect health; and it was to be expected that fewer of them would die, than of those who caught the Small Pox casually; as the last would include persons of all ages and constitutions, and many affected with other indispositions.

It was also proved by a multitude of ancient

last yearly account of the Success of Inoculation, by M. Massey. Dissertation concerning Inoculation, by Dr. W. Douglas, 1730. An Enquiry into the advantages received by the first eight years Inoculation. London, 1731. A Practical Essay on the Small Pox, by William Hillary, M. D. 1735.

authorities, and by several modern instances, that some individuals were liable to repeated attacks of the Small Pox. They then dwelt upon the extreme imprudence of rushing into an immediate and certain danger, in the precarious hope of preventing one, that was distant and contingent.

For notwithstanding the prevalence of the Small Pox, great numbers of persons escaped it altogether; and how could parents console themselves or escape from remorse, if by officiously contaminating their child, they should strike it with blindness or with death?

And lastly they represented the mischief that would result to the public from extending the contagion of the Small Pox*. Dr. Wagstaffe exemplified this by a late occurrence in the city of Hertford, where, in consequence of a few inoculations, the Small Pox had spread through the town, and occasioned a prodigious mortality.

Notwithstanding these objections, it soon appeared, that in London, the most eminent of the profession favoured inoculation. Dr. Jurin †

* An Account of the Improved Method of treating the Small Pox, by Dr. Düring, Nottingham, 1737. Baker's Merits of Inoculation, &c. &c. A Letter to Dr. Freind, shewing the Danger and Uncertainty of Inoculating the Small Pox, by W. Wagstaffe, M. D. Fellow of the College of Physicians, and Physician to St. Bartholomew's Hospital, 1722.

† Vide Dr. Jurin's various publications.

took the lead in replying to the opponents of this practice: and being a calm man, well skilled in calculation, his writings were composed with great good sense and good temper. He drew his arguments chiefly from an accurate examination of the London bills of mortality for forty-two years, and from accounts collected from a few large cities: and he compared the numbers who died of the Small Pox with the general mortality. From all which he concluded,

“ That of all the children that are born,
“ there will some time or other die of the
“ Small Pox, one in fourteen.” And,

“ That of persons of all ages, taken ill of
“ the natural Small Pox, there will die of that
“ distemper, one in five or six.” Whereas it appeared that only one in sixty of persons who had been inoculated had died. In a subsequent publication, after greater experience, he admitted that one in fifty of the inoculated had died.

These calculations proved that an individual who resided in London, or in any large city where the Small Pox prevailed, had a much better chance of surviving that disease by being inoculated; but they did not apply to the country, or to places where the Small Pox was infrequent. And as in the year 1723, a great

increase of the mortality by Small Pox took place in London ; Dr. Jurin expressed his opinion, that this ought not to be imputed to inoculation, as the numbers who had been inoculated in town that year did not exceed sixty.

This was a very inadequate answer : a single person may bring the Plague into a town, or into a nation, and be the cause of the destruction of an innumerable multitude.

The Small pox is fully as infectious a disease as the Plague : and sixty inoculations were more than sufficient to account for the augmented mortality, and were probably the real cause of it. But neither Dr. Jurin, Dr. Scheuchzer, Mead, nor any of the distinguished advocates for inoculation paid due attention to this powerful objection.

This could not have proceeded entirely from inadvertency, as the argument was frequently urged by their opponents : but perhaps these classical controvertists imitated the crafty counsel of Cicero, who owned, when an argument was difficult and troublesome to reply to, that he some-times passed it over.*

“ Ut molesto, aut difficili argumento, aut loco
“ nonnumquam omnino nihil respondeam : ” this

* De Oratore, lib. ii. § 72. Vide the whole of this section.

might be excuseable in an orator pleading a cause ; but not in philosophers, whose paramount duty is the investigation of truth.

More attention was however paid at that time, than has been since, to prevent contagion spreading. For it was then the practice to confine Small Pox patients to their chamber, and they were tended by persons who had already suffered the disease: and they were recommended not to mix with the public, until it was conceived, that the infection was over.

With regard to the objection that inoculation did not secure the individuals, with perfect certainty, from future attacks of the Small Pox ; this, which was a very feeble argument, was combated by an absolute fallacy. For Mead and several other eminent physicians, from zeal for inoculation, positively denied that the true Small Pox ever occurred twice. This became a prevailing opinion, although contradicted by almost all the old writers, and by numerous authentic cases occasionally published by a variety of medical authors in every country.

So rare is candor among disputants.

But in spite of the writings and recommendation of many able medical gentlemen, and the example of the Court, the practice of inocula-

tion, instead of becoming popular, declined to such a degree, that from the year 1730 to 1740*, it was almost disused in England.

Mr. Maitland went to Scotland in the year 1726†, with the hope of establishing inoculation in that country, and operated upon ten persons. But one of those patients, a gentleman's son, having died, a complete disapprobation of all farther experiments followed : and inoculation was very little practised in Scotland until towards the year 1753.

In Ireland‡, the commencement was even less auspicious. Sixteen persons were inoculated by a surgeon at Dublin, three of whom died in consequence.

Nor was Mr. Maitland's attempt to establish this new practice on the Continent very successful. He began by inoculating Prince Frederic at the Court of Hanover ; the disease proved mild, yet there were few imitators for a long time in any part of Germany.

Thus, after much ink being shed, and a trial being given, inoculation was in a great measure

* A Practical Essay on the Small Pox, by William Hillary, M. D. 2d. ed. 1740.

† An Account of the Inoculation of Small Pox in Scotland, by Alexander Monro, M. D.

‡ Woodville's History of Inoculation.

relinquished in Europe ; and there seemed little reason to imagine that it would ever be revived.

When in this dormant state, news was brought that multitudes of Indians in South America had been inoculated with as much success by some Carmelite friars, as the Asiatics had been by the old Greek women. A physician and surgeon also began in the year 1738, to inoculate in South Carolina* ; and only lost eight persons out of eight hundred.

But a planter in St. Christopher's inoculated three hundred persons without the loss of one. For it is singular that in those days all inoculations performed by private gentlemen, monks, and old women, were uniformly successful : and empirics afterwards, were equally fortunate : none lost patients from inoculation, except the regular members of the Faculty.

The American reports were so encouraging, that about the year 1740† the practice was revived by a few surgeons in Portsmouth, Chichester, Guildford, Petersfield, and Winchester ; and gradually extended in the southern counties.

* Essay on Inoculation, by Dr. Kirkpatrick ; 1745. *De Variolis et Morbillis*, cap. 5. Richard Mead.

† *Philosoph. Trans.* vol. xlvii. p. 570.

tion, instead of the surgeons, Hawkins and
 such a degree of perfection the surgeon-gene-
 it was all renewing and spreading

Mr. [?] the nobility and gentry in
 1726 [?] exertions were much assisted
 in [?] of Mead; who, in the year
 [?] published a translation from the Arabic
 [?] work of Rhases on the Small Pox; to
 which he added an essay* of his own, very agree-
 ably written. In this he denies that the Small
 Pox ever recurs to the inoculated, and he gives
 the honour of this invention to the Circassians,
 imputing to this practice the extraordinary
 beauty of their women; which so highly enhan-
 ced their price, when exposed to sale by their pa-
 rents, for the Turkish seraglios. Although this
 assertion had little foundation, it was well calcu-
 lated for effect. For it is the ambition of many
 English ladies to render their daughters as beau-
 tiful and desirable as the fairest Circassians.

That the physicians who recommended ino-
 culation were actuated by pure motives, cannot
 be questioned; but this is not demonstrable
 with regard to the surgeons. For not only the
 operation and the management of the sore arms,
 which were usually long in healing, were ex-
 clusively in their hands, but the whole treatment

* De Variolis et Morbillis.

of the disease was sometimes transferred from the province of the physician to them, and became a new and fertile source of surgical emolument. Still no doubt ought to be entertained of the eminent surgeons who commenced inoculation being swayed solely by conviction.

Interest however gains proselytes more quickly than reasoning. And as the accounts which were promulgated by the surgeons, announced much greater success, than the publications of Dr. Jurin; the practice sensibly gained ground in the higher ranks of life: but the expence and confinement which were then requisite, placed it out of the reach of the lower orders.

To remedy this, the inhabitants of London, ever attentive to the sufferings of the indigent, founded, in the year 1746, an* hospital for inoculating the poor, and for the reception of persons infected with the Small Pox. This charity was originally established upon admirable principles; since, by the removal of infected persons from the mass of population, contagion was lessened. And as the inoculated were confined in an appropriate building, and not discharged until the danger of infection was

* Woodville's History. Small Pox Hospital Reports.

over, and their dress had been thoroughly fumigated, an important benefit was probably bestowed upon those admitted, and no injury could be done to others. Unhappily the wise regulations of the humane founders of this charity were afterwards entirely altered; when all who applied at the gates of the hospital were promiscuously inoculated with the Small Pox, and suffered to wander abroad, diffusing far and wide the mortal infection.

It appears that this hospital at first excited considerable alarm in the neighbourhood, and was even opposed by the parish officers. To justify the undertaking, and to promote the subscription, a medical sermon was preached by Dr. Maddox, bishop of Worcester. This was composed with considerable ability, and all objections to inoculation, upon religious grounds, were refuted to the satisfaction of those christians who listen to human reason. But on some medical points, the bishop had been strangely misled by his informants; for he asserted, that it appeared by the bills of mortality, that the deaths by the Small Pox had lessened one fifth since inoculation was practised. Whereas in the year 1752, in which this sermon was preached, the Small Pox was raging in the town, and the deaths were more numerous than they had ever been in any year previous to it: they amounted

to 3538 persons *. This fact was certainly unknown to his Lordship.

But his principal argument was framed upon the supposition, that inoculation would be universally adopted ; and then he calculated how many lives were likely to be saved by it. The experience of the charity might have shewn the bishop how chimerical that assumption was. For the hospital for inoculating the poor could then only receive fifteen patients at a time, and in five years, only a hundred and thirty-one persons had been prevailed upon to submit to inoculation, which evinced, most decisively, the repugnance of the lower orders to that operation, when it was pressed upon them.

The most eminent of the medical profession, in England, however, saw clearly that inoculation tended, in a remarkable degree, to mitigate the violence of the Small Pox ; they therefore persevered in the practice, and in 1754 the college of physicians of London ventured to publish a strong approbation of inoculation, in which it is declared, † “ that experience had refuted the arguments which had been urged

* The General Annual Bill of Mortality is not published till the end of the year.

† “ Quoniam Collegio nunciatum fuit, falsos de variolarum insititiarum in Anglia successu et existimatione apud exteras

“ against this practice ; which was now held in
 “ greater esteem and was more extensively
 “ employed by the English than ever : and the
 “ college considered it highly beneficial to man-
 “ kind.”

There was a noble disinterestedness in this declaration ; and if care had been universally taken to prevent the inoculated from communicating with those liable to receive the contagion, the measure would have been unexceptionable.

The medical opposition in England now declined, as few physicians presumed to dissent from a decree of the college ; and the surgeons were universally eager to inoculate all who would trust them. A feeble complaint was made by an anonymous physician *, against the surgeons who pretended to prescribe for Small Pox patients. He charged them, and perhaps justly,

“ gentes nuper exiisse rumores, eidem collegio sententiam suam
 “ de rebus hisce ad hunc modum declarare placuit : videlicet,
 “ argumenta, quæ contra hanc variolas inserendi consuetudi-
 “ nem in principio afferebantur, experientiam refellisse ; eamque
 “ hoc tempore majori in honore apud Anglos haberi, magisque
 “ quam unquam antea inter eos nunc invalescere ; atque hu-
 “ mano generi valde salutarem esse se existimare.” Vide
 Taylor. Oratio Harv.

* A serious address to the public concerning the most probable means of avoiding the dangers of inoculation. London, 1758.

with destroying many by their ignorance of the principles of medicine : and was of opinion that they ought to be restricted to the performance of the operation, and to the local treatment of the arm. If a law to this effect had taken place, the numbers inoculated would have been very inconsiderable. But the complaint being replied to by a surgeon*, with great moderation, the contest proceeded no further ; and the medical and chirurgical professions remained on decent terms with each other.

The press now groaned with works in favour of inoculation, and with various plans of treatment.

For although the Bramins in Hindostan, and the females in the wilds of Arabia, gave no medicines to the inoculated, yet the simplicity of this practice was not long preserved in England. Mr. Maitland, indeed, appears to have given no physic to the children of Lady Mary Wortley Montague, nor to the felons in Newgate : but Dr. Nettleton†, who published next to him, employed a preparatory treatment of emetics, purgatives, and sometimes bleeding. He like-

* Remarks on the above, by Thomas Cooper, Surgeon, 1758.

† An account of the success of inoculating, &c. by Dr. Nettleton.

wise directed that the plethoric should abstain from animal food and strong liquors. After inoculation was performed little was done, but the patients were kept moderately warm, an anodyne, and sometimes a blister were directed; and when the disease was over, they were repeatedly physicked, and sometimes blooded. Dr. Jurin, who followed him, prescribed nearly the same preparatory course; which was proportioned to the plethora of the patients. During the disease, purgatives were rarely employed, conformably to ancient doctrines; but remedies similar to those in use in the natural Small Pox were directed. And as the doctrines of Boerhaave were now in high estimation, his opinions were more followed than those of Sydenham; consequently, perspiration was encouraged, and the patients were kept warm.

Additions were gradually made to the treatment, which became more complicated daily; and the dread of purgatives in the Small Pox, which had been transmitted from the Arabians so entirely vanished, that these evacuants were soon exhibited in every stage of the disease. This alteration in practice may be dated from a memorable controversy.

Mead informs us, that in the year 1708, he had observed several patients afflicted with the malignant Small Pox, who were seized with a

looseness on the ninth or tenth day of the eruption, and recovered. *

He concluded that the looseness was the cause of these recoveries; and therefore imitated this natural occurrence by exhibiting laxatives in the decline of the disease; which he thought had been extremely beneficial.

This idea was communicated and approved of by Dr. Freind; who was soon after called into consultation with two other physicians, upon the case of a young nobleman †, who laboured under the confluent Small Pox in the most virulent degree.

It is impossible to deny the discordance of physicians; yet it is well known, that when two, three, or more retire to consult upon the most obscure or intricate malady, they invariably return unanimously recommending precisely the same remedies; and it is rarely known who suggested them. But after the above attendance, contrary to the custom of the profession, some things transpired, and insinuations were whispered, injurious to the character of Dr. Freind. He became so indignant at these reports, that he resolved to publish the whole that passed at

* De Variolis et Morbillis, Præf. Richard Mead, M. D.

† Commentarii Novem de Febr. ad Hippocratis, &c. Comment. 7. Joân Freind, M. D.

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 whicl^e succeeding days cordials and di-
 so er been prescribed, and injections
 soor^{ed} with effect. But as the
 Th^{is} becoming worse, Dr. Friend proposed
 me^{ans} that an opening medicine should
 be^{ing} to be used this reason. "that as
 h^{is} matter was clearly the feel of the
 n^{ature} said to be hope^{less} that any more

could now be evacuated by the cuticular pores, it was advisable to effect this by other passages.”

His two colleagues objected positively to this proposal, alledging the danger of bringing on a looseness in the present state of the patient ; and they contended for cephalic medicines to calm the delirium and nervous tremors. These remedies Dr. Freind considered as lopping the branches, instead of pulling up the roots of the disease : but as his arguments failed of conviction, a mixture was prescribed containing the spirit of a human skull, and volatile salt of ammonia.

On the seventeenth day the sick nobleman continued to grow worse, and had sunk into a comatose state. In the consultation room, the medical dispute was renewed.

Two of the physicians were of opinion, that the alteration which had taken place was an additional motive for abstaining from all opening medicines : and Dr. Freind represented, that as the coma was brought on by the same cause which had occasioned the other symptoms, it was a new proof of the necessity of purging the patient without delay. But as his reasoning had no effect, a cephalic julep was again directed. Towards the evening the patient became so much worse, that his dissolution was expected;

and Dr. Freind persevered in urging that a dose of physic should still be given. His opponents insisted, that it was contrary to the rules of art ; but they at length yielded, as the patient must die at all events.

A full dose of salts and senna was then prescribed, which operated in three hours : upon which the fever abated, the pulse strengthened, and the coma vanished. But these flattering appearances only lasted a few hours : and next morning, the eighteenth, every bad symptom had recurred in an aggravated degree. A blister was now had recourse to ; and in the evening one of the physicians proposed flowers of sulphur, as a medicine possessed of the virtues of expelling humors, and likewise of being an aperient. Dr. Freind replied, that if it could act in the latter mode, it would please him ; for his only hope rested there.

One dram of sulphur divided into four doses were ordered, which had no sensible effect : but at midnight the fever again remitted. On the nineteenth day all the symptoms were much mitigated ; but the physicians remained inflexible in their original persuasions.

Dr. Freind was convinced that the amelioration had been effected by the evacuations produced by the physic two days before, and by the discharge of the blister during the night, and

therefore pressed strenuously for more evacuations. But the others believed, that the sulphur had extinguished the fever and delirium ; and as the patient had improved under the action of this medicine, they wished it to be repeated.

Dr. Freind then raised an objection to this repetition, that if the sulphur did not operate upon the bowels, it would excite heat and fever, as the diaphoretics had done before.

But the other physicians maintained, that sulphur was, on the contrary, a refrigerant ; which was clearly proved by the refrigerant properties of the acid which was formed by burning sulphur.

Freind on this exerted his profound learning to prove that sulphur was a califacient and diaphoretic ; and from possessing these qualities had been recommended in malignant fevers by Hippocrates : he noticed that Van Helmont had been so struck with this, which he considered to be miraculous, as to imagine that an angel had disclosed it to Hippocrates. Dr. Freind added, that in latter times sulphur, from belonging to the above class of medicines, had been employed also in the plague.

These arguments were unavailing ; and as neither would yield, both sulphur and purgatives were laid aside, and the former cephalics were resumed.

On the twentieth day, all the bad symptoms recurred, and the physicians agreed to a sort of compromise ; for an injection was prescribed in which there was mixed half a dram of sulphur.

At length, on the following day, when the young nobleman was evidently perishing, the other physicians were overcome by the perseverance of Dr. Freind, and eight grains of calomel, with half an ounce of lenitive electuary, were exhibited in a draught : this was succeeded by injections. But the patient continued to sink, and died on the twenty-fourth day of the fever.*

Dr. Freind supported the opinion he had given in this unfortunate case, by narrating several other cases, where the exhibition of purgatives had been followed with complete success in the secondary fever of Small Pox : and from his great knowledge in the history of medicine, he picked out a number of authorities for that practice. These however were in fact exceptions to the general rule: for undoubtedly opening medicines were so much condemned by the most celebrated prior writers, and were so little in

* While each Physician his learn'd Colleague tires

“ With learn'd impertinence, the Sick expires.” GARTH.

use, that Dr. Mead considered his employing them as a medical discovery, and claimed the merit of having made it.

Dr. Freind's book had hardly appeared, when the reproaches on the treatment of the young nobleman were renewed, and several attacks were made upon the doctrines contained in the work.

Among others, there was a confused book * published by Dr. Woodward, Professor of Physic to Gresham College, in which he recommends frequent emetics and vegetable oils, as the best remedies for Small Pox.

This advice, and probably the book itself, would have been totally neglected, had it not contained some very illiberal reflections upon Dr. Freind, and those physicians who recommended purgatives in the Small Pox. These † offensive strictures called forth two impotent pamphlets, which were intended to cast ridicule upon Woodward. They were poor performances, yet ascribed to Freind and Mead,

* The State of Physic and of Diseases, by J. Woodward, M. D. 1719.

† A Letter to the Learned Dr. Woodward, by Dr. Byfield, 1719. A Letter to the fatal Triumvirate, &c. 1719.

An Appeal to Common Sense, by a Divine, &c. 1719. A Letter in the Freethinker, &c. &c.

by an anonymous pamphleteer, who stiled himself a Churchman. The physicians were here reproved for the unfair conduct they had pursued, and exhorted to a cool, argumentative discussion of the important medical question at issue.

This sermon was unavailing; for Mead, soon after, when driving along the streets, saw Woodward * walking towards Gresham College: he stopt his chariot, got out, followed, and struck him twice with his cane. Both drew their swords, and after a few passes, Woodward stumbled accidentally, and fell. Mead very unheroically threw himself upon his antagonist, wrested from him his sword and broke it. He then called upon his fallen and disarmed enemy to ask for his life; which Woodward resolutely refused, and reproached Mead for the ungenerous advantage he had taken. The mob interfered. And Woodward in a few days afterwards, published in the newspapers an insulting account of Dr. Mead's behaviour in the

* An Antidote in a Letter to The Freethinker, by Dr. Woodward, 1719.

The Flying Post, St. Jame's Evening Post, and Weekly Journal, and British Gazeteer, (Newspapers.) June 1719.

Literary Anecdotes of the 18th Century, by J. Nichols, F. S. A. vol. vi. p. 641.

assault ; in which he flatly accused him of cowardice. This charge did not however excite a renewal of the duel ; and no public notice appears to have been taken of it : which forbearance certainly did not proceed from forgiveness ; for in the preface to Dr. Mead's Essay on the Small Pox and Measles, there is a virulent invective against Dr. Woodward : but this was not published till 1747, about twenty years after the professor's death.

Commotion strange ! as both Mead and Woodward spent the greater part of their lives in acquiring, and endeavouring to diffuse knowledge ; and in striving to cure or relieve those afflicted with maladies. The former even tried to find out remedies for the plague, for hydrophobia, and for other mortal poisons ; while the latter attempted to discover the theory of the structure of the great globe itself.

Ought not such lofty pursuits to have elevated them above the weaknesses of ordinary men ? Ought not such congenial studies to have kindled in their breasts mutual respect and friendship ? Yet these medical philosophers caned and fought each other with swords in the public streets ; and the sole cause of their fury was a difference of opinion about a cathartic !

The above anecdote is given from authentic cotemporary sources, yet is purposely left out

in all the printed lives of those * physicians. Such omissions render biography fallacious and insipid.

Although Freind maintained with his pen, and Mead with his sword, the propriety of giving purgatives in the secondary fever of Small Pox, yet this doctrine is not in vogue at present.

Indeed these very learned and experienced physicians fixt upon the only period for these medicines, in which they are now considered to be detrimental.

Still the above discussion led to frequent trials, and the ancient prejudice vanished: for purgatives were gradually prescribed, not not only preparatory to inoculation, but also in the early stages of the variolous disease.

The election made by different practitioners of the medicines of this class was various. In America †, a combination of calomel and antimony became a favorite composition, and

* Life of Mead, by Dr. Maty.

The Lives of the Professors of Gresham College, by J. Ward, F. R. S. 1740. vol. ii. p. 283. &c. &c.

† A Discourse on the Preparation of the Body for the Small Pox, &c. &c. by Dr. Adam Thomson. Philadelphia, 1750.

Pennsylvania Gazette, June 26th, 1760. A Dissertation on the Inoculation of the Small Pox in America, by Dr. Benjamin Gale of Connecticut, in New England.

was thence transferred to England. And besides * purgatives ; emetics, bleeding, blisters, opiates, and nervous drugs, were all in use to combat the fever and convulsive fits, which sometimes ensued after inoculation. It was also the established practice then, to confine the patients to their beds, and to encourage perspiration. The sores from inoculation frequently required much attention : they were always painful, and as the discharge was encouraged, they usually remained open during five or six weeks, and often longer.

Inoculation had therefore become a very serious affair : for the preparatory treatment lasted commonly a month, and medical attendance was requisite for five or six weeks longer : and though occasional disasters were palliated, they could not be wholly concealed. Families, in moderate circumstances, and timid mothers, were not therefore very easily induced to incur the expence and risk of such a process. Consequently, the practice of inoculation, though widely diffused, was in a great measure confined to the opulent. In London it was more generally practised than elsewhere ; and four or five hundred poor

* An account of the preparation and management necessary to Inoculation, by James Burgess, 1754. Analysis of Inoculation, by Dr. Kirkpatrick, 1754.

people were likewise annually inoculated in the Small Pox hospital. The practice in Scotland had been resumed at Dumfries in 1733, and had gradually extended to Edinburgh, and to the most remote cities. It appeared from a calculation made by Professor Monro * in 1765, that between five and six thousand persons had been inoculated in the whole of Scotland, in thirty-one years; which, on an average, was one hundred and eight annually: and the fatal cases amounted to one in seventy-eight. Nothing therefore could be more vain than the expectations of those, who imagined that such a system could ever be universally adopted.

* An account of Inoculation in Scotland, by Alexander Monro, sen. M.D.

CHAP. X.

INOCULATION IMPROVED, AND WIDELY EXTENDED.

— THE SUTTONS. — BARON DIMSDALE.

SOME of the circumstances which attended the progress of inoculation through Great Britain, are not flattering to the philosophic character of the nation.

'Twas first rumoured, as a practice followed by some poor old Turkish and Arabian women. A lady of quality then introduced it into the Royal family, and among the higher circles in England; and now it will be shewn, that it finally acquired popularity by the artifices of an empiric. For Daniel Sutton, with his secret nostrums, propagated inoculation more in half a dozen years, than both the faculties of Medicine and Surgery, with the aid of the church, and the example of the Court, had been able to do in half a century. This man was the son of Robert Sutton, a surgeon at Debenham in Suffolk, and he and his brother assisted their father in his business. But after a time, both

the sons left their father's house *, and Daniel was content to serve as assistant to a surgeon at Oxford. In the year 1763, he rejoined his father, and proposed to him to make some alterations in his plan of inoculation. These were condemned by the father as highly dangerous: yet Daniel was so confident as to make the experiment, and he found them successful. On this the father and son quarrelled, and the latter set off for Ingatestone in Essex; where he set up as an empirical inoculator. He pretended to have discovered an infallible secret, and brought himself into public notice by the old and still successful trick of "puffing hand bills and boasting advertisements." Yet in truth, his pretensions, though extravagant, were not without foundation; and in a short time, such multitudes crowded to Ingatestone to be inoculated, that the town and neighbouring villages were filled with the patients.

In addition to the common place artifices, a hireling clergyman was procured to sound forth his wonderful talents from the pulpit †. This

* History of Inoculation, Woodville.

† A sermon preached at Ingatestone, Essex, Oct. 12, 1766, in defence of Inoculation. To which is added, an Appendix on the present state of Inoculation, by the Rev. Robert Houlton.

was an improvement on the clumsy device of a German quack, who, in strolling through country villages with Scaramouch at his back, had an urchin running before, to bawl out, "Here comes the famous Doctor Fritchius, the greatest physician in the whole world." The Doctor followed with a grave deportment, and now and then owned to the gazing spectators, "that what the little boy said was certainly true." And doubtless, it was equally true with the assertions made by the Reverend Robert Houlton, that Mr. Sutton could, by his inestimable medicine, infallibly prevent too great a burden of pustules ; and that he and his assistants had inoculated 20,000 persons without fairly losing one.

An empiric never hesitates at making positive declarations, and is never at a loss for pretexts to cover failures. Should an infant at the accession of the variolous fever be carried off by convulsion, he denies, with effrontery, that the Small Pox was the cause, and invents another upon the spot. Should the confluent Small Pox and death ensue, he soon detects that his instructions were not strictly complied with, that some important error was committed in regimen ; or that the patient was too much, or too little exposed to the air. In fine, the fault may be in the parents, in the nurses, or

in the inoculated ; but is never allowed to fall fairly upon the inoculator.

It is much to be regretted that Daniel Sutton should have stooped to employ such unworthy devices ; for his plan of treatment was greatly superior to that of any former practitioner : and had he followed the correct rules of open professional conduct, his name would have been recorded with honourable distinction.

It was soon acknowledged that his success, though exaggerated, was great ; and considerable scientific skill were exerted, both by physicians and chemists, to analyse his medicines, and to find out the whole of his plan. Information was even obtained from his patients *, and as he communicated his treatment to many distant practitioners, on condition of sharing their profits, the secret could not be kept. All the essential points were discovered by many, and were included by Baron Dimsdale, in his essay “ On the present method of inoculating

* An essay towards an investigation of the present successful and most general approved method of Inoculation, by B. Chandler, surgeon, Canterbury. An enquiry by Dr. George Baker ; and two Letters from Dr. Glass to Dr. Baker, on the same subject.

Manuel Secret et Analyse des Remedes de Mr. Sutton, &c. par M. De Villiers, Docteur Regent, &c. à Paris, 1774.

“ the Small Pox.” No doubt can now remain on this subject, as Daniel Sutton in his old age redeemed the pledge given by Houlton, and fairly published the Suttonian system * of inoculation. Although this was not done until no farther benefit could accrue from concealment ; still it was an act creditable to Mr. Sutton, and is almost without example among the advertisers of secret nostrums.

It appears both by the analyses and by the confession, that the Suttons in strictness invented nothing ; but judiciously combined remedies which had been found out independently by others. Sydenham had discovered the utility of exposing Small Pox patients to the cool air, and of allowing them to drink cold water ; but he did not venture to deviate so much from ordinary rules as to prescribe purgatives ; he on the contrary was profuse in exhibiting opiates.

Subsequent physicians had ascertained that great benefit arose from opening medicines, and particularly from mercurial purges : but in conformity to old theories, they at the same time confined their patients to bed, covered them

* The Inoculator, or the Suttonian system of Inoculation, &c. by D. Sutton, surgeon, &c.

warmly, and promoted perspiration. But Daniel Sutton had the sagacity to extract what was beneficial in both those plans, and to reject what was injurious; for he exposed his patients to the air, directed for them cooling drinks and diet, and prescribed purging and refrigerant medicines; by which combination the treatment was rendered consistent. This system seems not to have been the result of deep study, for Sutton was no great reader, and his plan was repugnant to the received theories. But every English medical man knew Sydenham's practice, and Lady Mary Wortley Montague had written, that the Turkish children were suffered to play about in the open air during the variolous eruption. Almost every modern essay at that time likewise recommended purgatives, and Sutton only made choice of the prescription which was most in vogue.

Calomel and tartar emetic were the efficient ingredients of the principal remedy, both in Dimsdale's treatise and in Sutton's confession. Antimony and mercury, in a variety of forms, had been lately much in use in England; this remedy was brought hither from North America, where it was extolled by several medical writers. In 1750, Dr. Adam Thompson, who had employed it with great success for a

dozen years, published that the suggestion arose to him from one of Boerhaave's aphorisms, which may be translated thus. *

“ Some success from antimony and mercury
 “ prompts us to seek a specific for the Small
 “ Pox in a combination of these minerals, re-
 “ duced by art to an active, but not to an acri-
 “ monious or corrosive state.”

The powders of Sutton, and the prevailing prescriptions of different physicians, variously modified, may thus be traced back to Boerhaave; which exemplifies, that folios from common authors, produce less effect in the world, than a single sentence from a man of genius.

Some time after this†, Van Woensel, physician to the noble cadets at Petersburg, conceived the opinion that mercury simply was the real specific of the Small Pox: he imagined that a full mercurial course would absolutely pre-

* “ § 1392. In stibio, et mercurio, ad magnam penetra-
 “ bilitatem arte deductis, nec tamen salina acrimonia nimium
 “ corrosivis, sed bene unitis, ut quæramus (correctionem spe-
 “ cificam), incitat aliquis horum aliquando sueccesus.”
 Aphorismi Her. Boerhaave.

† Nouvelles Experimens faites avec le mercure dans la Petite Verol. par V. Woensel.

Histoire et Memoires de la Societ  Royale de Medicine, Paris, An. 1777, 1778.

vent the variolous action, and that a moderate one would mitigate it.

In consequence of these notions, he prescribed to variolous patients small doses of calomel daily; not as a purgative, but to influence their constitutions with mercury. The observations of others have however fully ascertained that mercury is not a specific for the variolous action: but the utility of calomel in mitigating the disease, is generally admitted; though the principle on which this depends is undecided.

Sutton had the merit of bringing back the Byzantine method of operating by a slight scratch or puncture; he inserted no variolated thread, but employed a lancet dipt in variolous matter. Maitland had been compelled to change this milder method from the outcry raised against him, for instilling into the human body a vicious humour, without establishing an issue for its discharge.

The essence of Sutton's plan was included in Baron Dimsdale's work *, and it may be perceived, that the cool treatment was carried to an extravagant excess. For those affected with the variolous fever were advised to walk

* The present method of inoculating for the Small Pox, by Thomas Dimsdale, M.D. 1766.

abroad, even in the coldest weather. And if unable to make this effort, they were to be led out by two assistants.

Wisdom warns to avoid extremes: and medical experience has taught, that in all fevers quiet is an essential remedy. This was even understood by the Bramins of Indostan, who placed the sick man suffering from the variolous fever at the door, on a mat; where he reposed, shaded from the sun, and enjoying the breeze.

There is also a most important omission in Dimsdale's Treatise, and in most of the essays upon inoculation. Little is said of what is to be done upon the accession, and during the progress of the confluent Small Pox. A subject which is most uncandidly avoided; although every medical man knows, that this malignant eruption is occasionally produced by inoculation; and to escape this acknowledgment hardly any instructions are given, for the palliation or cure of almost the only species of Small Pox, which is dangerous.

Baron Dimsdale's work was however extremely applauded, and his treatment was commonly adhered to; though sometimes diversified by individuals of the profession. And inoculation became in consequence much more successful and popular than before.

But to counter-balance this, the Suttonian

plan of sending the sick abroad, by spreading and perpetuating the infection, encreased the frequency of the disease. All the rules laid down by physicians, for the safety of the public, were now disused. Even the Governors of the Small Pox Hospital broke through their original prudent regulations; whoever applied at their gates were inoculated, and suffered to wander through the city of London, covered with pustules, and exhaling infectious vapour.*

In the year 1767, Dr. Heberden wrote a more accurate account of the Chicken Pox than had before appeared, and proved that it was a distinct specific disease; though it had been often confounded with the Small Pox, by former writers. This confirmed the rash assertion, which some physicians had made, in the heat of the controversy on inoculation, that Small Pox could only occur once, which became in England a very general opinion. But unless we are so bigotted to this abstract doctrine, and also so sceptical, as to credit no testimonies, it must be abandoned.

For almost all foreign writers, as well as the old English writers, have expressed their conviction that Small Pox sometimes attacked the same

* Medical Transactions, College of Physicians, London, vol. i. art. xvii.

individuals more than once. And examples are scattered through their works, described by phrases which exclude all suspicion of Chicken Pox.

Professor Diemerbroek *, a most observing and accurate physician states, that in the year 1640, when the Small Pox was epidemic, he saw several persons, who, having had the Small Pox very thick, caught it a second time ; and that the pustules broke out on the second attack in greater numbers than on the first.

De Haen, Professor at Vienna, was also an eye witness of several similar cases; and he describes, among others, the case of a young lady of distinction, whom he attended with Dr. Molinari, who contracted the confluent Small Pox twice. Such cases as these are quite decisive. But there is something extremely seducing in a general principle, and its fascination may be observed even on the solid intellects of Van Swieten †, who had entertained the notion that the real Small Pox could only take place once. His extensive reading of ancient and modern

* The Anatomy of the Human Body, &c. by J. Diemerbroek. Ratio Medendi, tom. iv. et Respons. ad Epist. Apolog. Trallis. tom. ix. De Haen, &c.

† Comment. in Herm. Boerhaave Aphorism. Gerard. Van Swieten. tom. v. art. Variolæ. (Spuriæ Variolæ). "Triplitem talem pustularum speciem observavi."

books, had shewn him multitudes of opposing declarations and cases; but he disregarded them. Some eminent physicians, who were his friends, made similar assertions; these he explained away. He had also attended in the Small Pox several individuals, who assured him that they had the disease before; these assertions he would not believe. And lastly, he had himself seen pustular eruptions, which attacked the same individuals thrice; yet still he adhered to his principle, that the genuine Small Pox never occurred twice, and that these apparent exceptions were cases of spurious Small Pox.

But Van Swieten had likewise a violent prepossession against inoculation; and when arguing vehemently against this innovation, he declares, * positively and truly, that there were many undeniable examples of persons who had been infected with the Small Pox by inoculation, who afterwards contracted the genuine Small Pox. Here one prejudice overcame another, and truth prevailed.

Besides the foreign authorities, the English

* “ Sed plura dantur exempla, quibus fides denegari non potest, rediisse veras variolas post insitionem tentatam, sive illa successu caruerit, sive variolas solito tempore excitaverit.” *Loco. cit.* p. 148.

medical journals contain several authentic examples of persons whose faces were strongly pitted with the Small Pox, and who were afterwards destroyed by a second attack of that disease. *

The mind may be relieved from so disagreeable a consideration, by relating an incident frequently repeated by the late Dr. Reynolds, Physician to His Majesty.

He was sent for by a lady unknown to him, and conducted by her maid rather mysteriously into a handsome bed-chamber; where he saw, lying in a splendid bed, a lady masked. Being a good deal surprized, the maid stifled a laugh; while her mistress in a soft toned voice apologised for concealing herself, even from a professional gentleman. This (she said) had become proper, from the peculiarity of her situation. At present she stood greatly in need of his superior medical talents, and was extremely anxious for his opinion on her case; which she understood from others, was a very rare one. The doctor being thus put upon his guard, enquired minutely into all her symptoms, and examined critically a pustular eruption which was spread over the lady's person: he then pronounced the disease to be, without all

* Memoirs, Medical Society London, vol. iv.

doubt, the Small Pox. On which, the patient unmasked, and displayed features seamed with that disorder.

Whatever scepticism might have prevailed upon that subject formerly, it is impossible that it should resist the proofs which the controversy upon vaccination have lately called forth. For some years the periodical and other medical publications teemed with cases of Small Pox occurring twice : a vast number were reported officially to the Board of the National Vaccine Establishment, who, in a Report to Parliament, expressed their conviction that this accident occurred occasionally, and the fact is now no longer questioned.

The English accounts of Inoculation were translated into foreign languages, and diffused through Europe ; but this new practice was by no means received on the Continent with the same cordiality as here. In France it was not only requisite that it should be approved of by the faculty of medicine, but also be sanctioned by the church. Accordingly, the point was submitted to the Sorbonne *, who decreed, “ that it was lawful to make some experiments of inoculation, with a view to public utility *.”

* Lettre sur l’Inoculation, du Dr. de la Costa, à Dr. Dodard. Paris, 1723.

But notwithstanding this permission, and the eager wishes of many French physicians, others were violently averse to it: Dr. Hecquet* in particular, wrote against it with national vivacity. In his philippic, the medical arguments were combined with the subtlety and virulence of theology. At the same time a thesis was written on a question proposed in the Parisian school of medicine, “ Whether it was a crime “ to inoculate for the Small Pox ?” in which the affirmative of this proposition was attempted to be proved with more zeal than judgment. The victory, however, remained with the enemies of inoculation; for the practice was condemned by the Faculty of Medicine at Paris, and it does not appear that any one was inoculated in France, for above thirty years afterwards. The controversy † was, however, never relinquished; and among the publications which were continually flowing from the press, perhaps a Memoir read at the Royal Academy at Paris, in favor of Inoculation, by M. de La Condamine, was the most eloquent. But even this appeared to

* *Raisons de doute contre l’Inoculation*, par Dr. Hecquet, Paris, 1723.

“ *An variolas inoculare nefas ?*” *Questio medica in scholis Medicorum*. 30 Dec. 1723. Woodville’s History.

† *Collection Academique*, Dijon, 1755. (contenant *Ephemerid. de l’Academ. des Curieux*), tom. xii. p. 156.

have had no effect. At length, in the year 1755, the systematic Turgot, the ardent reformer of French finance, caused a child to be inoculated at Paris. But according to the Baron de Grim *, the revival of this practice was owing to no conviction of its superiority, but to a medical quarrel.

Senac was a graduate of the university of Montpellier ; and when he established himself in the capital, expected that his distinguished reputation would at once procure him admission into the Faculty of Paris, without the accustomed form of maintaining a thesis. This being refused, he became their irreconcilable enemy : and to mortify this learned body, who had condemned inoculation, he prevailed upon the Duke of Orleans to send for Tronchin, who was conversant with that practice, to inoculate the young Duke of Chartres, and Mademoiselle d'Orleans. Tronchin arrived, and the inoculations were successful. This event made a prodigious noise throughout France, and Tronchin inoculated numbers of children of the first families. As he was not only a very judicious, but an agreeable physician, he acquired a brilliant reputation ; and Senac was converted by jealousy from a warm patron to a

* *Memoires Hist. Litter. tirés de la Correspond. par Le Baron de Grimm. et Diderot. tom. i. p. 389. Londres, 1813.*

bitter foe. Being the physician and having gained the ear of Lewis the XVth, he one day told “ him that in consequence of more mature deliberation, he was now convinced that Inoculation was dangerous.” The Duke of Orleans owed him little thanks, for having given an important advice respecting his children, without the fullest reflection : but passion is not circumspect. While Tronchin who had then acquired the friendship of Voltaire, and who shone in the first literary circles, was not to be injured by the malignity of Senac.

After this commencement, Inoculation began to spread, not only in Paris, but also through the principal cities of France. But in the year 1763, the Small Pox proving epidemic at Paris, occasioned an unusual and dreadful devastation. The vigilance of that police was immediately roused, and the Parliament investigated the cause of this augmented mortality. From the evidence collected, that Court became convinced that it was owing to the increased infection from inoculation ; and therefore issued a decree, prohibiting the practice in Paris.

Those who wished to be inoculated, were therefore under the necessity of retiring to the country, where they might reap the advantage of this operation, without destroying their neighbours.

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* *Mémoires Hist.*
Baron de Grimm. —

writers. He was also guided by the latter, to recommend Inoculation; but no enthusiasm was excited for this new practice in Germany.

At Berlin it was long discredited, in consequence of a number of fatal cases occurring at its commencement. But in Holland, from its vicinity to England, the practice was more favorably received, though it seldom descended to the lower orders. In Hanover, Denmark, and Sweden, the medical gentlemen in general recommended and practised inoculation as much as was in their power; and some poor houses were established for the reception of those in indigent circumstances. But no representation could render this practice acceptable to the lower orders.

The great Catherine had assumed the Sovereign power in Russia, whose decided character prompted her to the resolution of bringing into her dominions all foreign improvements. Her medical counsellors had informed her that Inoculation would be of great advantage to her subjects; on which she applied to Great Britain for an eminent practitioner to instruct the Russian physicians in that art.

Doctor Dimsdale was recommended, who inoculated the Empress and her son, in 1768; their example induced many of the nobility also to submit to inoculation. The Baron had abund-

ant practice both at Petersburg and Moscow ; he established an Inoculating hospital, instructed the Faculty in his method, and returned to England decorated with a title, and loaded with wealth.

Catherine merits praise for her intentions, and for her munificence ; but it is distressing to learn the result of spreading inoculation through the Russian Empire. No person who is so competent to judge of this as Dr. Crighton,* physician to the Emperor Alexander ; who has stated, in a letter laid before the National Vaccine Establishment, that previous to the introduction of vaccination, it had

* Extract of a letter from Alexander Crighton, M.D. Knight of the Order of St. Walmoden, Physician to the Emperor and Empress Dowager of Russia. St. Petersburg, 12th Sept. 1812.

“ The whole number of children inoculated (with the
“ vaccine, from the year 1804 to 1812) concerning whom the
“ government has received certain information, amounts to
“ 1,235,597. Now supposing, according to a well founded
“ calculation, that before the introduction of (vaccine) inocu-
“ lation, every seventh child died annually of the Small Pox,
“ vaccination has saved the lives, in this empire, of 176,514
“ children.”

The above letter, which contained accurate official reports of all the children vaccinated in Russia, to the year 1812, is recorded in the Minutes of the Board of the National Vaccine Establishment, Dec. 31, 1812.

been calculated, that every seventh child died annually of the Small Pox.

It was formerly mentioned that in various parts of Italy the practice of buying the Small Pox, and a rude species of inoculation, had been long obscurely practised. But notwithstanding the publication of the Byzantine practice, by Dr. Pylarini in 1715, and the love of letters so prevalent in Italy, inoculation does not appear to have been ventured upon by the medical profession until 1754. When most of the Italian physicians of note recommended it, and it was extended to all parts of Italy, except Naples. The practice was however in a great measure confined to persons of condition.

Spain, which is so much behind the rest of Europe in all mental acquirements, benefited on this occasion by their sluggishness. One surgeon * introduced the practice into the town of Jadrigue in Andalusia, where it was continued during forty-two years, without extending beyond that district. In the year 1772, Dr. Don Miguel Gorman made the exertion of coming to London, to collect some information upon the subject; when he returned to Madrid he was encouraged by the court, and practised

* *Practica Moderna de la Inoculation.* O Scanlan. *History of Inoculation*, Woodville.

upon a few of the nobility. Some inoculations also were effected in a few trading cities, which held communication with England. But these efforts were of short duration, and from the distinguished inaction of the Spaniards, inoculation was soon relinquished; and no other country in Europe has suffered so little from the Small Pox.

CHAP. XI.

CULLEN. — THE FINAL TREATMENT OF SMALL
POX, AND THE RESULT.

WHEN the striking advantages of the cool regimen in the inoculated Small Pox had been ascertained, it naturally occurred to Baron Dimsdale to employ it also in the casual disease: but he took little notice of the remedies which were suited to controlling the malady, when it assumed the confluent and dangerous aspect. It is chiefly to the celebrated CULLEN,* that we are indebted for fixing the general principles of the treatment of Small Pox, and of reducing the entire management of both the inoculated and casual disease to one plan.

This Professor improved the treatment of most diseases; and though every system of physic, and every page of every system is defective, yet that of Cullen is always perspicuous, and still

* First Lines of the Practice of Physic, by Wm. Cullen, M.D. Edinburgh, vol. ii.

unrivalled. He taught that this malady, however acquired, was to be treated according to the symptoms that arose, and the type it assumed.

In the distinct species, he asserted, that the fever was of the inflammatory kind, or a synocha, which abated on the third day, and usually vanished on the fifth. When the pustules on the face were numerous, some degree of fever re-appeared on the tenth and eleventh days, but generally disappeared after the pustules were fully ripened; or perhaps remained till the pustules on the feet had finished their course. It was seldom that in the distinct Small Pox the fever continued longer. With regard to the pustular eruption, it passed through the stages of inflammation, suppuration, and desiccation.

He stated, that in the confluent Small Pox, in which the pulse was more frequent and more contracted, the fever was far more violent, and approached to that form which was found in typhus. This species was often ushered in by epileptic fits, and accompanied with delirium and coma.

Some remission commonly occurred about the third or fifth days; but about the tenth or twelfth days the fever was renewed with violence, and termed secondary: this became of the same

nature, and was accompanied with every symptom of that fever which has been termed putrid, and its duration and event were various.

He discriminated the eruption of the confluent from that of the distinct Small Pox, as accurately as the fever. Remarking that the inflammation, particularly on the face, assumed the erysipelatous disposition: that the pimples were less eminent, more numerous, conjoined, and irregular in figure. The liquor secreted was first clear, then brown or black, and of a thin consistence; and the skin in some places disposed to gangrene; while this was the state of the eruption on the face, frequently the pustules on the body, and especially on the extremities, were distinct, and proceeded nearly as in the milder malady.

The above are the characteristics of the two species of Small Pox, but the line of separation is too obscure to be clearly traced: yet the danger of the disease is proportioned to its declination from the distinct species, and to its approximation to the confluent.

At the beginning it is uncertain which form the malady will assume. But the measures to remedy the milder species, and to mitigate the worst, are the same. When inoculation is adopted, it has this great advantage, that an opportunity is acquired of employing a preparatory course previous to the attack of the fever.

The cooling plan of Sydenham, and the antiphlogistic remedies of Boerhaave, compose the treatment of Cullen, before the accession, and during the first stage of the variolous fever; and he considered mercury to be useful, only as a purge. Should the disease prove of the distinct sort, with few pustules, no further remedies are required.

But when the malady assumed the confluent and malignant type, it required the greatest attention: and as soon as a loss of strength began, the Peruvian bark, acids, spices, aromatics, and wine, were recommended; opiates were to be given, constipation to be obviated, and blisters to be applied successively to different parts of the body.

This is the great outline; and Dr. WILSON* has lately accumulated, with industry, each individual remedy, which has been recommended by modern physicians: they coincide in a great degree with Cullen's general principles, which are the last that have been developed upon the Small Pox.

No observations would have been added here, even upon the selection of remedies made by

* A Treatise on Febrile Diseases, &c. by A. P. Wilson, M.D. vol. ii. 1800.

the superior men who have investigated this subject, had there not been considerable discordance in their selection. But fortunately where there is an agreement in the general plan, the choice of particulars is not very material. For as mankind when in health may be well nourished by various kinds of food; so when distempered they may be recovered by various remedies. And as Epicures love and loathe particular dishes; physicians are not exempt from partialities and aversions in their choice of drugs.

Perhaps in the preparatory treatment of inoculation, and in the first stage of the Small Pox, Dr. Cullen thought rather too lightly of mercury: for most of those practitioners, who for upwards of half a century have had extensive experience in the Small Pox, have employed calomel; some believing it to be the preferable purge; others conceiving it to be beneficial on other grounds. But their agreeing almost universally to prescribe it, affords a presumption, that calomel, by some action, mitigates the variolous fever. And in this malady mitigation is all that is practicable. For physicians may attempt to cure many other diseases, but in the Small Pox they only pretend to lessen the violence of the symptoms, with the expectation that the disease shall proceed more mildly to

the end of its course, without destroying life, or injuring any of the organs of the body.

Epileptic fits are a frequent and dangerous symptom in children. And though they evidently proceed either from the violence of the disease, or from the delicacy of the patient; yet as they are occasionally followed by a mild Small Pox, it has been asserted, very absurdly, that they were a favorable symptom. They are most to be apprehended on the first attack of the disease, at the breaking out of the eruption, and at the accession of the secondary fever. From their occurring at these periods, and from the appearance of the patients in the fits, they seem an accomitant of the cold paroxysm of fever: and this is an indication that the proper remedies for them, are those which experience has shewn put the speediest period to the cold fits of intermittent and continued fevers of other kinds; namely, wrapping up the body warm, exhibiting hot drinks, with the addition, if necessary, of stimulating medicines.

But some physicians have been so much impressed with the advantages of the cold treatment in the Small Pox, that they have dreaded the temporary application of heat, even at a moment when cold might strike the patient with instant death. Yet it ought to be kept in recollection, that as soon as the circulation of the blood

and warmth have been restored to the surface of the body, and the fits have ceased, the temperature of the skin should be reduced to the proper degree : for a continuation of this warm regimen would endanger the production of the confluent Small Pox.

Upon the subject of temperature, an inconsistency may be remarked in the modern treatment of the secondary fever in the confluent Small Pox. In the latter stage, when typhoid symptoms appear, the treatment recommended at the beginning of the disease is reversed with one exception ; the admission of cold air to the body is still recommended. Why this exception ? Is it credible, that the character of the malady should be so changed that internal tonics, cordials, and stimulants, are to be substituted instead of venesection, emetics, purgative, and neutral salts ; yet still that the external refrigerating plan ought to be persevered in ? This is also repugnant to what experience has dictated in erysipelas and typhus. For in these diseases, when gangrene is menaced, and strength is failing, warmth is always enjoined : and at the period, when cardiac medicines, spicy aliments, and animating wines are administered to rouse the sinking powers, care is taken not to counteract their salutary agency by an excessive abstraction of animal heat.

Blistering has been extolled in the Small Pox from the days of Sydenham down to the latest authors ; and is the last point of practice which shall be questioned : and it is hoped, that this may be done without presumption, as the grounds upon which blisters have been recommended are obscure, and many cases where they have been used, are known to have terminated fatally.

It is chiefly in the confluent Small Pox, and in the latter stages of that disease, that blisters are employed ; and the principal reason given is, that they are stimulants, and therefore adapted to rouse the faculties, when debilitated and exhausted by the severity and continuance of the disease.

But the quality of stimulating alone, is insufficient to prove their utility in any disease ; and blisters have unfortunately been recommended in maladies of opposite kinds. Indeed emetics, purgatives, diuretics, and emmenagogues may likewise, in one sense, be all termed stimulants, which is an appellation too general for practical application.

It must be owned that the science of the action of medicines is still very little advanced ; yet the operation of blisters may be investigated with such lights as we possess.

The local effects of a blister are to occasion

pungent burning pain, and to excite redness, and a discharge from the surface of the skin to which it is applied. When a blister acts, all these effects follow; the sum of which is, that a blister excites inflammation. And the subsequent consequences, as well as the influence upon the constitution, are included in the general doctrines of inflammation.

There are two distinct and remarkable forms which are assumed by inflammation.

When the body is sound, and the inflammation of moderate extent, it usually possesses the phlegmonous character, terminates in suppuration, and is accompanied with synocha or inflammatory fever.

But when the inflammation is of vast extent, or when the body is greatly enfeebled, the disease is apt to acquire the erythematous or erysipelatous disposition, and tends to gangrene; and the constitution is then affected with the low or typhoide fever.

These are admitted propositions; let them be applied to the consideration of the propriety of blistering in the Small Pox. No one has proposed blisters as a remedy in the distinct Small Pox; as in that malady there are always present phlegmonous pustules and inflammatory fever. And consequently, to excite fresh in-

flammation, would augment, instead of alleviating the symptoms.

It is in the confluent Small Pox alone, and usually in the latter stage of that disease, in which it has been advised to apply blisters, and to repeat them in succession.

As the event of this most distressing and dangerous malady is various, it is hardly possible for the keenest observer to discriminate the effects of the blisters, from those of the disease. It is therefore advisable to seek assistance from the established doctrine of inflammation.

At the height of the confluent Small Pox, the inflammation extends over a large surface; it threatens or assumes the erythematous disposition, and the fever inclines to the typhoid type. Excess of cutaneous inflammation is the great evil, and menaces by its consequences to overwhelm the patient. Can it be possible, that the symptoms in that state of body, should be alleviated by blistering, that is by exciting additional inflammation? If more frequent opportunities had occurred to physicians of seeing the phenomena of inflammation, they perhaps would never have recommended this application, under such circumstances. It falls to the lot of surgeons to treat these external affections; and on removing blistering plasters in such

cases, they have too often perceived, what might always be apprehended, that the whole surface had sphacelated. Mr. Pearson, the most learned surgeon of the age, has correctly ranked “the application of severe stimuli, to a diseased or debilitated part*,” among the most potent causes which produce gangrene. From which it may be suspected, that in some doubtful cases, where the patients might have survived the wasting influence of the typhoide fever, and the thick spotted inflammation; yet when these were augmented by the baneful irritation of blisters, the remaining vital powers have been overpowered.

After having thus attempted, with temerity to trace the medical practice in the Small Pox, perhaps even beyond the present times; it is fitting to consider what was the result of the labors of twelve centuries to remedy this malady.

The confession that must be made is mortifying to a professional man: for, according to such records as we possess, it appears, that in spite of all medical exertion, the mortality of Small Pox had progressively augmented. It

* Principles of Surgery, by John Pearson, Esq. F.R.S. P.R.I. Surgeon of the Lock Hospital, and Consulting-Surgeon to the Public Dispensary, p. 108.

has been made evident by calculations * from the Bills of Mortality of the City of London, renowned for medical science, that at the beginning of the eighteenth century, about one fourteenth part of the inhabitants died of the Small Pox. And, during the last thirty years of that century, when the practice in Small Pox was highly improved, the mortality by that disease had augmented to one-tenth.

The annual loss of lives by Small Pox in Great Britain and Ireland in this latter period, was separately calculated by two † able physicians, and the result laid before a Committee of the House of Commons. The one estimated the numbers at 34,260, adding that he believed those deaths to be under the truth. The other physician made them amount to 36,000.

But this immense and encreasing consumption of human lives was not the sole evil produced

* Letter to Dr. Cotesworth, by James Jurin, M. D.

Observations on the Increase and Decrease of different Diseases, by William Heberden, 1801. p. 36. The Evidence at large, as laid before the Committee of the House of Commons, respecting Dr. Jenner's Discovery, &c. by the Rev G. C. Jenner. Vide the Evidence of Dr. Blane, and Dr. Letsom.

† Dr. now Sir Gilbert Blane, Bart. and Dr. Letsom. Vide Evidence at Large, l. c.

by this distemper : for a considerable portion of the survivors were pitted and disfigured ; some lost one of their eyes, a few became totally blind, and others had their constitution impaired, and predisposed to a variety of complaints, which were productive of future distress, and sometimes of death. These additional calamities cannot be reduced to calculation ; but as the mortality from Small Pox was continually on the increase, these concomitant evils must have been so likewise.

As the Small Pox was not so generally diffused in many other countries where inoculation was much less practised than in Great Britain, some are believed to have suffered less. Yet Condamine calculated the deaths by Small Pox in France, and Dr. Rosenstein in Sweden, to be one-tenth of the births.

The above facts, if unexplained, might lead to a false inference, that the medical treatment of Small Pox was noxious to the patients ; and that if art were totally thrown aside, more would recover by the help of Nature alone. But in truth the salutary influence of medicine was most conspicuous in this disease ; and the failure in the general result proceeded from the impossibility of prevailing upon the whole population to adopt medical counsel. For a very large proportion of that part of the community

which submitted to professional instructions, escaped all the calamities incident to the Small Pox.

An exact calculation cannot however be made of the proportion of deaths among those who were inoculated and skilfully treated : because the interest and vanity of medical men prompt them to exaggerate their success, and to conceal their failures : even the reports of hospitals cannot be relied on : for the parents of the inoculated, from discontent, from grief, or from residing at a distance, sometimes neglect to give information when their children are dangerously attacked, and when they perish.

Yet an approximation to the truth may be attained by making an allowance for these omissions.

At the commencement of inoculation in England the proportion of fatal cases * appear to have been fully one in fifty. But after the last improvement in treatment had been established, probably not more than one in two hundred were lost.

Of those who contract the casual Small Pox, and are treated with medical care, it has been admitted that generally about one in six are lost : but in countries where the medical arts

* Vide Dr. Jurin and Scheucher's Tables.

are unknown, the Small Pox is so fatal a disease, that few of those who are seized with it survive its malignity.

This may suffice as a vindication of the science of medicine, but it is an unfortunate circumstance, that the plan most conducive to the preservation of those who employed it, should prove detrimental to the remaining mass of population.

Had it been possible formerly to have persuaded every human being to have submitted to inoculation, a great saving of human lives would have ensued : but this was impracticable ; and the experience of a century has shewn, that partial inoculation, by diffusing contagion, multiplied deaths.

All the benefits of inoculation, without the mischiefs, might however have then been obtained, by precluding the inoculated, while the infection was upon them, from intercourse with persons who had not already passed through the Small Pox. But instead of this salutary precaution being even now adopted, there are miscreants of the medical profession, so stimulated by avarice, and so divested of humanity, as to disseminate the contagion of Small Pox through the most populous quarters of London.

Mankind are too selfish to submit volun-

tarily, even to transient restrictions for the public good. Many tainted with the plague have often artfully concealed it, and have attempted, without scruple, to get into populous cities ; though the consequence might have been, an incalculable loss of lives.

Indifference to the safety of others is indeed the chief cause of infectious diseases being propagated and perpetuated. To counteract which, the Governments of civilized nations have long ago established compulsory regulations to stop the entrance and spreading of the plague : and Great Britain has escaped that calamity for a century and a half.

The plague was a less destructive distemper than the Small Pox, yet no plan similar to the quarantine laws has been established to extinguish this infection ; and * one which was lately proposed in Parliament, was discouraged, as injurious to personal freedom.

But surely every man susceptible of a dangerous contagion has a natural right to hinder persons who are contaminated with that disease, from touching or even approaching him. The exercise of this right is a species of self defence ;

* A bill brought into the House of Lords in the year 1813, by Lord Borlington.

which for the public safety may assuredly be regulated by law, without infringing any reasonable notions of political liberty.

It is true that the enlightened part of the community preserve their families from all the dangers of the Small Pox, by employing vaccination. But British legislators, though exempt themselves from danger, will doubtless take into consideration the condition of the uneducated mass of the people ; and will pass regulations to save those also, whose mental blindness hinders them from shunning surrounding evils. For the prejudices of the lower orders are so incorrigible, that in the last year * near a thousand persons died of the Small Pox in London ; all of whom were poor people.

Their melancholy infatuation was † manifested to day, when finishing this work, in the case of a woman, who was indicted for a nuisance, and convicted before the Chief Justice and the other Judges of the court of King's Bench. The crime committed was carrying her child, after

* The deaths by the Small Pox in the year 1814 amounted to 638 in the London bills of mortality, which hardly include two-thirds of the mortality of the metropolis.

† April 27th, 1815. The Author was present and had the pleasure of hearing this important decision. The prosecutors were the Board of the National Vaccine Establishment.

inoculation, when covered with Small Pox pustules, through the alleys and streets in her neighbourhood, and by this misconduct infecting eleven persons with the Small Pox. Eight of these died in a shocking condition, and a ninth child lost one of its eyes. All these facts were completely substantiated by the parents of the sufferers.

The Court, before pronouncing judgment, animadverted upon the conduct of this woman, as clearly illegal and criminal: and positively declared, that the exposure of a person in a public place with any infectious disease which endangers the lives of others, is a criminal act, punishable by law; yet as this was the first indictment for prosecuting this offence, they were induced to mitigate her punishment by condemning her only to three months imprisonment.

Future offenders may expect a heavier sentence.

This salutary example, and the promulgation of the law, must be productive of much good: but in many instances where the Small Pox is communicated, and even where death ensues, it is difficult, and often impossible, to establish by legal evidence the source of the infection. It is therefore much to be wished, that to pre-

clude all persons infected with the Small Pox from mixing with the public, a law should be enacted to confine them strictly to their own houses, or in hospitals appropriated by the parishes for that purpose, as long as the infection is upon them.

The plan is simple, to enforce it would be easy ; and the sole inconvenience would be a temporary confinement of those persons whose enlargement spreads poison through the land.

By such a measure, the infection of the Small Pox, for want of subjects to act upon, would necessarily decline, and soon become extinct ; and multitudes of human creatures would be annually preserved from disease, blindness, and death.

Some opposition might be expected from those who live by spreading contagion among the community. But these are a set of men whose immoral conduct merits rather the castigation of the magistrate, than the consideration of the legislature. And few even of them would have the effrontery to raise objections to a statute for extinguishing the most fatal pestilence that ever preyed upon man ; which, like the benign law for abolishing the slave trade, would reflect lustre on the mover, adorn the annals of parliament, and add grace to the so-

vereign : and would likewise form (though it may spoil the climax) the most agreeable conclusion possible to the eventful History of the Small Pox.

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THE
H I S T O R Y
AND
PRACTICE
OF
V A C C I N A T I O N.

BY JAMES MOORE,

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SECOND REGIMENT OF LIFE GUARDS, AND MEMBER OF THE
ROYAL COLLEGE OF SURGEONS IN LONDON.**

“ Cum ea, quæ quasi involuta fuerunt, aperta sunt, tum inventa dicuntur.”
LUCULLUS, CICERO.

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THE
HISTORY AND PRACTICE
OF
VACCINATION.

CHAP. I.

THE DISCOVERY.

THE discovery of a mode of preventing the Small Pox is one of those splendid events which reflect lustre on the English nation: and it must be interesting to learn, whether this was stumbled upon by chance, or unfolded by ingenuity.

Dr. Jenner is the claimant, and men of letters are his jury; their verdict alone can give him fame; and before they decide they will strictly inquire, what first suggested the idea to his mind, what means he devised to investigate the truth, what obstacles he surmounted, and finally what is the value of the discovery.

All these questions will be elucidated by a simple narration of facts.

Edward, a younger son of the Rev. Stephen Jenner, Vicar of Berkeley, in the county of Gloucester, was born in the year 1749. He received a good provincial education at Cirencester ; and being intended for the medical profession, was bound apprentice to the first surgeon at Sodbury.

About the year 1768, during his apprenticeship, he learnt that there was a report, rife in the dairies, of a distemper named the Cow Pox, which infested the teats of milch cows, and infected the hands of the milkers, being sometimes a preventive of the Small Pox. As milkers were often applying for remedies to cure festering sores on their chopt fingers, Mr. Jenner had the opportunity of observing them ; and he was assured that they were acquired from the cows, who had similar sores on their teats.

It was likewise a fact of public notoriety, that the peasants in that county, even when repeatedly inoculated, often resisted the infection of Small Pox. This singular circumstance, together with the foregoing report, made a considerable impression on his youthful mind. At the age of one-and-twenty, he went to London to prosecute his studies, and became pupil to John Hunter, who was rising into celebrity. This surgeon, endowed with an extraordinary capacity, was then pursuing knowledge with ardour, and observing nature with the piercing

eye of genius. Even under such a roof, dull and lively dunces profited little ; while acute and grave students reaped advantages proportioned to their faculties and application : but the solid precepts and ingenious remarks, which were sprinkled in the conversation of Hunter ; together with such an example of unremitting exertion, strained to the bent the congenial intellect of Jenner ; and this fortunate, early intercourse may have largely contributed to his future renown.

This conclusion is, however, only a presumption : for though the pupil frequently mentioned, in conversations with his sagacious master, the reports concerning the Cow Pox in the dairies of Gloucestershire ; yet as the facts were improbable, the accounts vague, and their authorities weak, they were disregarded.

Hunter, however, soon discovered the superior capacity of Jenner, and recommended him to aid Sir Joseph Banks, in forming a scientific arrangement of the curiosities and productions, which he had brought from the islands in the South Sea.

And when a second voyage of discovery was projected, Jenner was solicited to be one of the literary associates in that enterprise. This was declined, and the project was afterwards abandoned : but the friendship of Hunter and Jenner continued for life ; and they occasionally

...ended on subjects of natural history, to which they were both devoted. Indeed, at one period, Mr. Hunter solicited Jenner to become his partner in business. But the love of a country life, attachment to the place of his birth, and, above all, affection for his elder brother, who had brought him up, induced him to resist this flattering offer; which had it been accepted, would have occasioned him to lose the opportunity of searching for those laurels, which he gathered afterwards in the shades of Gloucestershire.

After Jenner had finished his course of studies in London, he established himself as a surgeon at Berkeley; and as a recreation during the intervals of business, indulged in those philosophical pursuits for which he had a strong predilection; and amongst the rest commenced an inquiry respecting the Cow Pox.

It was not long before he found a number of persons who had never had the Small Pox, and who resisted that infection, both when exposed to it, by intercourse with the diseased, and when repeatedly inoculated. All of them attributed this insusceptibility to their having had the Cow Pox. Yet the older farmers assured him, that this notion was of no very long standing; for they had never heard of it in their younger days.

Jenner conjectured, that as the practice of inoculating the Small Pox was also of recent

date in that part of the country, this might account for the observation not having been made earlier.

He next heard of a great many exceptions to the opinion, and he saw several creditable persons who assured him that they had had the Cow Pox, yet afterwards contracted the Small Pox. The more he inquired, the more examples of this were found.

Having applied to the medical gentlemen of the county for authentic intelligence, and consistent statements ; they all agreed in declaring from experience, that the Cow Pox was only an occasional, and a very uncertain preventive of Small Pox.

All former investigators had been arrested by the opposing facts ; but Jenner was not so easily disheartened : he resolved to go himself into the dairies, to examine both the distempered cows and the milkers, and to scrutinize accurately every peculiarity of the disease.

Having formed this resolution, he first found out, that the cows were subject to several kinds of eruptive complaints on their teats ; some of which were infectious and others not ; but that all which excited sores on the hands of the milkers, were indiscriminately called the Cow Pox. It seemed probable to Jenner, that only one of these disorders could possess the preventive power in question ; and

he at length ascertained the peculiar eruption to which that property belonged.

He then entertained sanguine hopes, that by this discrimination he should be able to reconcile the discordant facts; for he suspected that the belief of the Cow Pox being only an occasional preventive of Small Pox, might be owing to confounding different maladies under the same name.

In this expectation he was however disappointed: for, to his great mortification, he found several examples of milkers, who were seized with the Small Pox, after having contracted sores on their hands from the genuine Cow Pox. These most vexatious facts he did not credit lightly; but having seen several decisive instances, he was compelled to admit them; and for some time all his hopes of being able to employ the Cow Pox for any useful purpose were extinguished. Indeed, even now, when the secret is known, whoever reflects upon this perplexing circumstance must be astonished, that it did not prove an insurmountable barrier to all further investigation.

But Jenner frequently revolved all the phenomena in his mind; and it seemed to him a strange anomaly in nature, that there should be this singular diversity in human constitutions; that the same cause should render one portion of mankind invulnerable to the Small Pox, and should have no such effect upon another. By

exerting himself to clear up this mystery, he at length detected some new peculiarities of the Cow Pox; the attentive consideration of which enabled him to solve every material difficulty. On a minute inspection of the sores produced by the genuine Cow Pox on the hands of different milkers, Jenner observed, that their appearance and progress varied remarkably in different persons. In some instances the malady preserved the character of the regular Cow Pox, which was now familiar to him; while in others it appeared like a common ulcer. By carefully tracing back these cases to their commencement, he found that the difference of the disease on the milkers, depended upon the period of the disease on the infecting cow. For when a milker was infected by a cow during an early stage of the malady, he contracted the regular Cow Pox; but those milkers who were infected even by the same cow at a more advanced period of the complaint, acquired upon their hands ordinary ulcers.

This latter complaint was usually caught by breaking down the crusts on the teats of the infected cows in milking them; it was generally more tedious in healing, and accompanied with more constitutional derangement, than the genuine Cow Pox.

These observations led him to suspect, that the power of preventing the Small Pox might

exist in the malady which was contracted at one period only : and after much investigation, he at length ascertained, that the milkers who acquired the Cow Pox from vesicles on the teats of the cows, while advancing to maturity, were secured from the Small Pox : while those contaminated by cows in an advanced period of the disease remained susceptible of the Small Pox. In fine, from a multitude of cases he was enabled to draw these conclusions ; that the property of preventing the Small Pox appertained only to one of those diseases which were vulgarly denominated the Cow Pox ; and that this power principally resided in the liquid secreted during the early stages of that disease. Jenner perceived that these opinions corresponded with remarks which had been made on the Small Pox ; as the liquid most active for variolous inoculation is that which is first secreted ; but the thick matter of pustules which have crusted, though it may excite local inflammation and suppuration, yet frequently fails of producing the real Small Pox.

Jenner was thus continually meditating upon the facts which he had ascertained, while the frequent occurrence at that time of the Cow Pox in the dairies in Gloucestershire, afforded him opportunities of multiplying his experiments and advancing his knowledge ; for he had long been struck with the idea that it might

be possible to propagate the Cow Pox by inoculation, not only from the cow to the human subject, but also from man to man. And as the complaint, when transferred from the cow to the milker, possessed the quality of preventing the Small Pox; it seemed probable that this quality might remain, even when propagated in succession from one human being to another.

Being powerfully excited by this expectation, he watched for an opportunity of making a series of decisive experiments to ascertain the truth. At length, in the spring of the year 1796 *, the Cow Pox having broken out in a farmer's dairy near Berkeley, Sarah Nelmes, a milk-maid, caught the infection in one of her hands, which had been accidentally scratched by a thorn. Jenner, who had then acquired a correct knowledge of the appearance of the malady, perceived that it was the genuine disease; and he selected a healthy boy named Phipps, who had not had the Small Pox, on whom to make the first trial of inoculating one human being from another with the Cow Pox virus.

Accordingly, on the 14th May 1796, Jenner punctured one of the vesicles on the hand of Sarah Nelmes, and taking a little of the transparent lymph on the point of a lancet, he in-

* An Inquiry into the Causes and Effects of the Variolæ Vaccinæ, &c. By Edward Jenner, M. D. F. R. S. page 28.

serted it into the boy's arm by two superficial incisions, which barely penetrated the surface of the skin. He watched the event which was to decide the completion or extinction of his hopes with trembling anxiety ; and saw with delight the incisions gradually inflaming, and assuming nearly the appearance of a part inoculated with variolous matter. On the seventh day the boy complained of uneasiness in the armpit, and had a slight headach ; he was also perceptibly indisposed, and spent the night with some degree of restlessness : but on the following day he was perfectly well. Jenner perceived with pleasure, that the similarity between the effects of this new species of inoculation, and of the variolous, was striking ; for Phipps had been affected with constitutional symptoms of the same kind, and at the same period, with those which commonly take place in very mild cases of inoculated Small Pox.

The inflammation and the changes in the appearance of the incised part, all bore a considerable resemblance to the local effects of ordinary inoculation ; yet some differences were remarked : for, after the latter operation, the part suppurates ; and when the pustule desiccates, a yellow or amber-coloured scab is formed : whereas Jenner observed, that in Phipps's arm the liquid secreted appeared at first to be limpid, and the crust finally assumed a dark hue.

The efflorescence also which spread around the incisions, he thought, had more of an erysipelatous appearance than is usual after variolous inoculation. It is remarkable, that even in the present state of knowledge little can be added to the concise description given of his first case ; which terminated by the crusts dropping off, and leaving permanent eschars.

It was next to be ascertained, whether or not this operation had rendered the boy insusceptible of the Small Pox. The similarity of the local appearances to those which follow variolous inoculation raised Jenner's hopes, while the slightness of the constitutional indisposition depressed him with fears.

To determine a point so important to mankind, he inoculated this boy on the first of July following with Small Pox matter ; and, to render the experiment as decisive as possible, several punctures and slight incisions were made on both arms, which were filled with variolous pus : yet Jenner had the inexpressible satisfaction to observe, that no other effect was produced, than such a slight and transient inflammation as usually ensues after the inoculation of persons who had already had the Small Pox.

Several months afterwards he repeated the inoculation, but no sensible effect was produced upon the boy's constitution. This case was then complete, which was the first example of the

vaccine fluid having been transferred from one human being to another.

Those who feel in their breasts the love of mankind, and the passion for fame, will conceive the transports with which this experiment filled the soul of Jenner. He became impatient to finish his work, and to make such a number of experiments as should be deemed conclusive; but a long delay unavoidably ensued, from the Cow Pox having disappeared from the dairies. It recurred, however, in the spring of the year 1798, when, from the wetness of the early part of the season, many of the farmers' horses were affected with sore heels, and soon afterwards the Cow Pox broke out in several of the dairies, affording Jenner the opportunity of resuming his researches.

On the 16th of March he vaccinated William Summers with virus taken from the teat of an infected cow. This boy was seized on the sixth day with feverish symptoms, and vomited; a slight indisposition continued till the eighth day, when he appeared quite well. The progress of the local inflammation was nearly similar to that which had been observed in the case of Phipps; which corroborated the presumption, that the virus taken from an infected cow, possessed the same property as that from an infected milker.

The vaccine lymph was next transferred from the arm of Summers to William Pead;

and the latter sickened on the seventh day. The constitutional symptoms and the local inflammation in this last case had so striking a resemblance to those subsequent to variolous inoculation, that Jenner was induced to examine the whole body, to see if there was any eruption on the skin; but none appeared. From William Pead several children and adults were likewise vaccinated; and from one of those, the lymph was transferred to several others, among whom was his own son, a boy eleven months old; who however did not contract the infection.

In detailing the effects in these cases, Jenner appears to have had some apprehensions, lest the local inflammation should exceed its due bounds, and he mentions some attempts he made to check it. The means he employed are now known to have been superfluous; but they mark his extreme caution, and how carefully he attended to the safety of his patients, while proceeding in a new and unexplored path.

A number of these persons were next inoculated with variolous pus, which they resisted, though Jenner deemed it superfluous to put them all to that test. And he ascertained by these experiments, that the vaccine lymph, in passing through a series of five individuals, retained the property of rendering the vaccinated insusceptible of the contagion of Small Pox.

From these trials he was led to conceive,

that the secretion of vaccine lymph endowed with this beneficial property, might be perpetuated by vaccinating in succession an indefinite number of human beings.

During the course of the above investigation, Dr. Jenner entered also into an inquiry of a very curious kind, and quite unexampled in pathological researches. He attempted to trace back another link in the chain of causes, by searching for the source of the Vaccine; which he had early suspected did not originate in the cow.

His success in this obscure research may encourage others to attempt similar investigations; and possibly may lead to future discoveries of the causes, and modes of preventing other diseases.

Jenner had noticed, that as long as cows had liberty to fulfil the maternal office by suckling their calves, they were exempt from the Vaccine. For this malady never arose spontaneously in the cow, but seemed to be an occasional effect of milking.

He also learnt, that the Vaccine was altogether unknown in most parts of England, and of other countries: and that even in Gloucestershire, where the malady was endemial, it frequently disappeared from the dairies for months, and sometimes for years. These facts evinced, that simply milking the cows was not the cause of the malady; but that it was produced by some

peculiar coincidence accompanying that process. He also remarked, that this distemper never occurred in dairies, where the cows were exclusively milked by the cleanly dairy-maids; but only in those dairies where it was the practice for some, or the whole of the cows to be milked by less delicate hands. It is the custom in Gloucestershire, for the farmers' men principally to milk the cows; and the same servants frequently tend the horses, and wash and dress them even when sick. Dr. Jenner had been struck with the peculiar appearance of ulcers, which sometimes broke out on the hands of the men-servants; and which, they said, they had caught from washing the heels of horses affected with a distemper called the grease. These sores were of a more virulent nature than vaccine sores; and were accompanied with greater constitutional derangement; yet they still bore some resemblance to them. In observing the occurrences of various farms, he also remarked, that the cows remained free from the Vaccine as long as the horses were in health; but acquired that complaint very soon after the horses were attacked with the grease. This coincidence took place so often, that he became persuaded of the virus from the grease of the horse being the source of the Vaccine in the cow: which recalled to his mind, that country surgeons are often foiled in their attempts to inoculate black-

smiths and farriers, with the Small Pox ; for these men frequently resist the infection altogether, or are so slightly affected, as to leave it doubtful whether or not they have contracted it. From all which he was led to suspect, that the grease, as well as the Vaccine, might be a preventive of the Small Pox. To ascertain this, Dr. Jenner inoculated with Small Pox matter two persons who had neither had the Small Pox, nor the Vaccine ; but whose hands had been infected with ulcers from the grease. Both these persons resisted the contagion ; but a third person under similar circumstances caught the casual Small Pox ; the malady was, however, most singularly mild, as if it had been mitigated by the effects of the grease.

In order to prosecute this subject further, he inoculated a boy with matter taken from a sore on a man's hand, which had been excited by the virus of the grease.

The infection took, and the appearance and symptoms of this equine disease were hardly distinguishable from the Vaccine. It was intended to have ascertained by variolous inoculation, whether this boy was rendered insusceptible of the Small Pox ; but he unfortunately caught a fever and died.

Although Jenner was prevented by this accident, from completing the experiment ; yet, from the facts that have been mentioned, and from a

multitude of occasional observations, he was quite convinced that a morbid liquid secreted by the skin of the horse, and commonly issuing from the heel when distempered by the grease, is the original source of the Vaccine; and the Gloucestershire farmers having been made acquainted with this, take such precautions, that the Vaccine has since become a rare malady in the dairies.

The above is a summary of the primitive experiments made by Dr. Jenner to ascertain the properties and the origin of the Vaccine, and on the result of which he founded the plan of extirpating the Small Pox from the world.

CHAP. II.

THE PROMULGATION OF THE VACCINE IN ENGLAND, AND THE INVIDIOUS CONDUCT OF SOME EARLY PROSELYTES.

FROM the time in which Jenner, when a youthful medical student, first heard the country rumours respecting the Cow Pox, until the period in which he completed the discovery of Vaccination, he never concealed his progressive knowledge; but openly divulged it to his friends, and even to medical societies. The original report he had mentioned to Mr. Hunter, in the year 1770, when he resided with him; and in two years after, when on a visit to London *, he showed him a drawing of a finger affected with the Vaccine; and proposed at that time Vaccination as a substitute for variolous inoculation. In consequence of this disclosure †, a pupil of Mr. Hunter's noticed in

* Evidence at large as laid before the Committee of the House of Commons, &c. London, 1803. Vide pages 1, 11, 135.

† Queries concerning Inoculation, by Dr. Beddoes, 1795. Observations on morbid Poisons, by J. Adams, 1795, p. 156. History of Inoculation, by Woodville, A.D. 1796, Introduction, note, p. 3.

a publication, that the Cow-Pox was a preventive of Small Pox: this was copied by others, and was also mentioned in medical lectures in London.

Notwithstanding all this publicity, Jenner was in no point anticipated, and his opinions were commonly regarded as the reveries of a rural enthusiast. It may therefore be presumed, that it required his peculiar cast of character to perfect the discovery: and it is certain, that if, by an alteration in the management of the dairies, the Vaccine had vanished, the discovery would have become impossible; and the Small Pox might have continued its ravages to the end of the world.

In June 1798, Dr. Jenner being satisfied with the result of his experiments, resolved to lay them before the public. And as he was a Fellow of the Royal Society, and accustomed to divulge his observations in science through that channel, he transmitted his manuscript to a correspondent who was in the confidence of Sir Joseph Banks the President; and requested that it should be laid before him, not doubting that it would soon be printed in the Philosophical Transactions. Jenner had already contributed several articles to that celebrated collection; in one of these he had fully disclosed the natural history of the cuckoo, which marked him out for a man of originality: and as none of his former

papers on subjects of mere philosophical curiosity had been rejected ; he naturally expected, that an Essay promulgating a discovery of vast utility, would be favourably received. But the perusal of his experiments produced no conviction ; and he received in reply a friendly admonition that, as he had gained some reputation by his former papers to the Royal Society *, it was advisable not to present this, lest it should injure his established credit. This advice, though given with the best design, was neglected with the happiest consequences ; for, although disappointed in his favourite mode of ushering his discovery into the world, he was confident that his work required no patronage : and therefore, after the addition of a few experiments made in this interval, he sent to the press his *Inquiry into the Causes and Effects of the Variolæ Vaccinæ, a Disease discovered in some of the western Counties of England, particularly Gloucestershire, and known by the Name of the Cow Pox.*

The title was unattractive, and the style unadorned ; yet this short treatise from a provincial physician, quickly excited general attention : for Jenner's name was already familiar to those most learned in medicine and natural history : and no man of science could deny the

* Letter from Dr. Jenner in possession of the author.

correctness of his experiments, or the justness of his conclusions. A great fermentation instantly arose ; and the subject was hotly discussed, both in professional circles and in general society. Many of the sanguine, and a few of the profound, were at once convinced of the truth of Jenner's opinions : but the cautious suspended their judgment ; while the superficial and self-sufficient pronounced at once that the whole was an absurdity.

The faithfulness of Jenner's statements could only be ascertained by further experiments, and the honour of commencing them is due to Mr. Cline. This excellent surgeon, by the soundness of his judgment, perceived where the truth lay ; but his prudence induced him to make his first trial in the most cautious manner. In St. Thomas's Hospital there happened to be a child with a distempered hip joint, who had never had the Small Pox : it was of peculiar importance to this child to be preserved from this disease ; for, independent of the common danger, it might augment the scrofulous disposition, which from the diseased hip was suspected to be prevalent. Mr. Cline was also of opinion, that the joint might be benefited by exciting moderate inflammation on the skin, and consequently that this case was peculiarly well adapted for the first trial with the Vaccine. He then made a slight scratch on the skin of the hip with the point of

a lancet, and held for a minute in the wound a quill charged with vaccine lymph, which he had received from Dr. Jenner. A vesicle in all points similar to his description arose; the child sickened on the seventh day, and the febrile affection subsided on the eleventh.

Mr. Cline next inoculated the child with Small Pox matter in three places. These punctures inflamed slightly on the third day, and then healed; and the child resisted completely the variolous contagion. This case was immediately transmitted to Dr. Jenner, who published it.

It was clearly due to Dr. Jenner from literary justice to grant him for a little time, at least, the unmolested possession of the subject; and to permit him undisturbed to pursue and to establish, if he was able, his announced discovery. But there soon started up certain officious interferers, who, though destitute of inventive powers, could repeat the experiments described by another, and could even vary some of their circumstances: these men being practitioners in London, assumed a superiority over the country physician, and constituted themselves his judges.

Dr. George Pearson, a licentiate in physic, first rushed forward; and was so eager to divert towards himself the public attention, which was directed to Dr. Jenner, that he published a thick

volume * concerning the History of the Cow Pox, previous to his having seen the malady. He tried to supply some deficiencies resulting from this inconvenience by disclosing his future intentions; by stating the experiments, which, when he could procure vaccine lymph, he was determined to make; and the propositions which he was preparing to solve: he pointedly affirmed, that he had resolved to admit of no loose hypotheses; but would rigorously demonstrate every truth respecting the Vaccine.

These laudable resolutions were diffusedly announced, and the work was swollen with replies to a multitude of letters, which he had dispatched to the dairy counties in hopes of learning something. But, by ill hap, his correspondents were as ignorant as himself; for not one of them had ever seen the Vaccine. They however civilly filled up their answers with all the rural rumours which they could rake together from the most intelligent dairy-maids: and

* An Enquiry concerning the History of the Cow Pox, by George Pearson, M. D. &c. 1798.

This physician is quite a different person from John Pearson, Esq. F. R. S. Surgeon of the Lock Hospital, and of the Cancer Institution; author of *Principles of Surgery*, *Practical Observations on Cancerous Complaints*, &c.: who vaccinated two of his own children, and was an early and steady promoter of Vaccination.

this incoherent mass of misinformation formed a tottering basis for many sophistical deductions. But Dr. George Pearson, being somewhat aware that such a compilation might disappoint his readers, was anxious that his next batch of letters should contain some real intelligence: he therefore added to his book, a list of thirty-two queries to guide the judgment of his correspondents, and, as he neatly expressed himself, “to save them the trouble of thinking.” This plan of obtruding himself as a channel for the observations of others, might have been imputed by the unsuspecting to over-zeal for the public; but a disagreeable surmise was forcibly excited by the following exculpatory paragraph: “Perhaps it may be right to declare, that I entertain not the most distant expectation of participating in the smallest share of honour on the score of discovery of facts; the honour on this account, by the justest title, belongs exclusively to Dr. Jenner; and I would not pluck a sprig of laurel from the wreath that decorates his brow.” As Pearson was at this time corresponding on friendly terms with Dr. Jenner, to obtain information on the Vaccine, which he alone could give, and which Pearson acknowledged he had never yet seen; this negation of any design to lay claim to the discovery, was superlatively superfluous. But it is difficult to

conceal the secret workings of the mind. Anticipated defences are often prophetic †.

The next writer on the Vaccine was Dr. Woodville, Physician to the Small Pox Hospital, who expected, from holding this office, that his opinion would have great weight. It was an employment which obliged him frequently to witness all the calamitous effects of the Small Pox, and would naturally render him very desirous of a preventive. Woodville, being a man of sense, judged it expedient to see some cases of the Vaccine before he wrote upon it; and therefore applied to Dr. Jenner for vaccine lymph; who had not been able, either by arguments or entreaties, to prevail upon such a number of persons to accept of the benefits of the Vaccine, as were requisite to preserve the infection.

† The laundry-maid of a gentleman of my acquaintance near Bromley, in Kent, was one night found murdered in an out-house. Next morning the females of the gloomy kitchen were lamenting in timorous whisperings the sad fate of their fellow-servant; when one of the footmen exclaimed, "that he hoped the atrocious villain would soon be found out, and hung in chains on the common." At which the gardener started, and cried out, "I declare that it was not me that killed her." All the servants turned their eyes upon him with amazement: for, till that instant he had never been suspected. But he was soon implicated by a train of circumstances, taken into custody, and convicted of the murder. Ultimately he confessed the crime, and suffered the punishment that had been imprecated.

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Dr. George Pearson assisted at these injudicious experiments; in which the children who were vaccinated, were exposed at the same time to an air tainted with variolous vapour; and many of them were also inoculated with Small Pox pus on the third, fourth, and fifth days after vaccination. Most of the children being contaminated with both contagions, were seized with violent and dangerous symptoms of fever,

followed by an eruption of pustules on the body. But as vaccine vesicles were likewise excited, Woodville and Pearson were fully persuaded that the fever and eruption were the effects of the Vaccine solely. Other practitioners obtained fluid for Vaccination from this contaminated source ; which in their hands also, frequently excited fever and eruptions, undistinguishable from the Small Pox.

These unexpected events raised a very unfavourable impression both of Vaccination and of the candour of Dr. Jenner. And while Woodville was proceeding with his experiments, and preparing for the press, Pearson anticipated him, and blazoned forth their bad success, in a periodical medical Journal. He there stated *, that Dr. Woodville and himself had already vaccinated upwards of a hundred and sixty persons, many of whom had contracted eruptions, which could not be distinguished from the Small Pox ; and that the constitutional symptoms excited by the Vaccine, seemed to be as violent as those which usually were produced by variolous inoculation. This alarming annunciation was evidently calculated to extinguish every hope of benefit from the new discovery. Dr. Jenner, therefore, felt it incumbent upon him to defend the accuracy of his own statements ; and

* Medical and Physical Journal, April 1799, p. 113.

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journals at this time teemed with cases of pustular eruptions from Vaccination.

In perusing Woodville's work, Dr. Jenner had detected the error which had been committed; yet he entered upon his defence with reluctance: for he could not vindicate himself without convicting those who were propagating Vaccination, of gross inaccuracy. Indeed, if persons who are prepossessed, could make use of their eyes, Dr. Pearson and the old physician of the Small Pox Hospital would have recognised the variolous pimples which studded the bodies of hundreds of their patients. But the invincible power of prejudication led them positively to maintain that Small Pox pustules were vaccine eruptions: and this deception was kept up by the pustules, in many instances, being unusually small; and desiccating early, from the influence of the Vaccine.

As the Medical and Physical Journal had at that time an extensive circulation, and was the usual vehicle of Dr. Pearson's animadversions, Jenner saw that by this channel he could give the most sudden check to the hostile opinions that had arisen, and to the mischief proceeding from employing variolous matter, under the denomination of vaccine lymph. He therefore inserted in that journal, a letter which stated, that, since he had begun to employ vaccine lymph, no pustules in any respect similar to

variolous pustules, had ever broken out upon any of his patients; and consequently he suspected, that in those cases where eruptions of that description had appeared, they were occasioned by variolous matter. Soon after he published a *Continuation of Facts and Observations, relative to the Vaccinæ Variolæ*. In this pamphlet he entered more fully into the subject in dispute; and declared, that he had used vaccine lymph taken from various cows, in the country, and also had procured some from the patients in London; and that the effects of all upon the human constitution were of the same mild character which he had detailed in his first publication. He repeated, that in some rare instances a few scattered pimples had shown themselves, which quickly disappeared, but no eruption like the Small Pox had ever occurred; and therefore he could not “ imagine that eruptions similar to “ those described by Dr. Woodville had ever “ been produced by the pure uncontaminated “ Cow Pock virus; on the contrary, he supposed, “ that those which the Doctor spoke of, originated in the action of variolous matter, which “ had crept into the constitution with the Vaccine: and this he presumed had happened from “ inoculating a great number of the patients “ with variolous matter; some on the third, “ others on the fifth day, after the Vaccine had “ been inserted: and it should be observed, that

“ the matter thus propagated, became the source
 “ of future inoculations by many medical gen-
 “ tlemen, who were previously unacquainted
 “ with the nature of the Cow Pox.”

Thus Dr. Jenner, with all possible delicacy to Woodville and Pearson, unfolded the mystery ; but the little passions of little men are easily raised, and the rashness of these physicians had occasioned an unlucky dilemma. If Jenner's justification were complete, those who had assumed the presumptuous task of correcting him were alone in fault ; they, in a multitude of instances, must have mistaken the Small Pox for the Vaccine ; and both inoculated, and distributed to others, the one fluid instead of the other. These mortifying inferences were not expressed by Dr. Jenner, but would probably occur to others, and could not escape themselves ; and were of a nature that might have some effect even upon their private practice. This was alarming ; for, although physicians are early inured to censorious whisperings, they are not accustomed to have their errors openly divulged : whose evil influence is often subdued by the salutary efforts of nature ; and, when these fail, is either shrouded by the ignorance of the sick, or buried in the silence of the grave. Neither Woodville nor Pearson could brook such a disclosure. Woodville, being the most impetuous, suddenly vented his passion in an outrageous pam-

phlet, dedicated indignantly to Dr. Jenner*. He strove with all his strength to demonstrate that the vaccine lymph at the Small Pox Hospital was quite pure; and that the pustules which spotted the bodies of his patients were not excited by variolous matter, but by the variolous atmosphere which they had breathed. Thus, to vindicate himself from one error, he acknowledged another; but his inoculations of the vaccinated with variolous pus were certain proofs of his having committed both. He must, besides, have been aware, that cavilling about the source of the variolous contagion, which he admitted had attacked his hospital patients, could avail him little. However, he affirmed that this had not occurred to any of his private patients, and he manifested on this tender subject an excessive solicitude to remove every suspicion that might attach to the purity of the vaccine lymph which he employed; asserting that he had lately vaccinated 2000 persons, without one alarming symptom having taken place.

By this warm eulogy on his latter practice, Woodville refuted both his own and Pearson's former animadversions. But passion prevented his perceiving this, or that, while employing the

* Observations on the Cow Pox, by Dr. Woodville, July 1800.

language of hostility to Dr. Jenner, he was corroborating his doctrines.

After this atrabilious and illogical effusion, Woodville corrected the errors committed in his first experiments, and silently promoted Vaccination. But in a few years he fell a victim to intoxicating liquors, swallowed, as was believed, to alleviate a fixed melancholy, which proceeded from an unhappy deed perpetrated in early life.

The persecution of Jenner, first set on foot by Dr. George Pearson, was more virulent, and continued longer: he also had committed the mistake of confounding the Small Pox with the Vaccine. This false step frustrated at once the vain hopes he had entertained of rising superior to Jenner; and he soon sunk beneath his former mediocrity. Jenner's feelings were much wounded by these unprovoked proceedings. He likewise had erred; for, by living aloof from the world, he was not aware of the real value of epistolary professions; and imagined that all those who were so eager to make experiments with the Vaccine were, like himself, prompted solely by philanthropy. He keenly felt the disappointment, and resolved never to justify himself again; but to accumulate on the world all the benefits in his power. Much of his time was now occupied, and a great expense incurred, by a multiplied correspondence both foreign and domestic; and by transmitting vaccine lymph to all who

applied for it. The demand upon him was incessant, after the detection that the source of the Small Pox Hospital had been contaminated: and this soon became notorious; for variolous matter, under the denomination of vaccine lymph, was spread widely through England, and transported to Germany, and even to the island of Madeira, where a physician described the Vaccine as a pustular disease. Gradually, however, by subsequent attention, vaccine lymph alone was employed; and when this happened, the pustular cases disappeared, and Jenner's accuracy was acknowledged.

CHAP. III.

A MEDICAL OPPOSITION AND CONTROVERSY.

PREVIOUS to the defeat of Woodville and George Pearson, another and a more formidable contest sprung up, for Discord never sleeps; she scatters unceasingly her golden apples, not only at marriage-feasts, but in the temples of the gods, and in the chambers of death. In the fabulous ages Wisdom could not brook the triumph of Beauty: in all times churches erected to mitigate violent passions have been rent with schisms; and even those who devote their lives to assuage the sufferings of the sick are rarely united by concord.

Medical differences are proverbial, and sometimes prompt rivals mutually to insinuate that each have poisoned their patients. This is a strange imprudence in persons so well versed in the credulity of mankind. The present controversy did not arise, like many medical disputes, from the obscurity of the subject, but from another prolific cause. The Small Pox was a source of considerable emolument to every member of the faculty of physic. So perilous a fever called for the costly regular at-

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was his eagerness, that he published a libel*, as George Pearson a panegyric, of the Vaccine, before he had seen it. This displayed a pre-determination; and his first objections were prophecies, which he assured us in his subsequent publications† were all fatally fulfilled.

Being aware that many persons are more influenced by words than by realities, he endeavoured to alarm mothers with the dread of contaminating their infants with the disgusting disease of an animal: accordingly, to augment their antipathy, he termed the Vaccine a bestial humour, declaring that “from its introduction into the human frame, he had apprehended the most dreadful consequences, which time and experience have at length proved.” And he did not scruple to aver that “blindness, lameness, and deformity, had been the result of employing the Vaccine in innumerable instances, and that its fatal venom had removed many an infant untimely from the world.” He even added, that death from the Vaccine was peculiarly dreadful, affirming, “I have seen children die of the Cow Pox, without losing the sense of torment, even in the article of death.” Then, lest these consequences should

* Medical Tracts, by Benjamin Moseley, M. D. 1799.

† Treatise on the Lues Bovilla, or Cow Pox; by Benjamin Moseley, M. D. p. 11, &c. 1805.

not be sufficient to deter all, he raises a suspicion that this communication with beasts might likewise corrupt the mind, and excite incongruous passions.

The following anecdote, related to me by a nobleman who was present, will show the impression made on the judicious by this performance.

Moseley was physician to Mr. Fox during his last illness: and when he was visibly and rapidly growing worse, his relatives and friends often importuned him fruitlessly to call in more medical assistance. These solicitations being one morning earnestly renewed, Mr. Fox, instead of yielding, argued the point with his characteristic warmth; and, to prove his full confidence in the skill of Dr. Moseley, reminded his friends that in a late indisposition of Mrs. Fox, he had never once proposed consulting any other physician; and though he was accused of great negligence of his own safety, yet he presumed all present would admit of his solicitude for her's.

Just as he reached this part of the argument, Moseley entered; when, turning to him, he proceeded with his speech: "And you, Moseley, are more in fault than all of them; for I am told you have published a book exquisitely ridiculous against the Cow Pox, which adds such force to their reasons, that I cannot repel

“ them ; and now I am tormented by their
 “ importunities more than ever.”

DR. ROWLEY, a veteran in practice, and a voluminous author, followed Moseley in a similar strain. As the early productions of this physician were filled with surprising cures of many dreadful diseases, especially cancers ; they had procured him considerable employment, but very little respect. In conversation he was voluble ; and when he talked on medicine to persons ignorant of the subject, he was even plausible. This will be evinced by an incident related to me by a gentleman of veracity, who, during a fit of the gout, was Rowley's patient. One day, when prescribing for him, Edmund Burke happened to call, and entered immediately into the medical discussion of the case. Rowley expatiated speciously on the hereditary disposition, the predisposing causes, the prophylactic symptoms, and concluded with his method of curing the gout, which, in the present case, he had no doubt would be successful. To whatever objections were raised, he had always prompt replies, which made such an impression, that, when he retired, Burke observed to his friend, “ You have a very sensible physician ; I
 “ have n't met with a more judicious man for a
 “ long time.” Burke's genius is incontestable : but his judgment on medical topics differed widely from that of the faculty : for, when Row-

ley discoursed at the Infirmary of disease and death, even his pupils were wont to smile; and in compounding his prescriptions, the apothecaries trembled.

This hackneyed practitioner had conceived, from gratitude towards the Small Pox, a mortal antipathy to the Vaccine, and seemed to have considered it as an insidious innovation, to subtract a portion from every physician's income: whereas, those methods of cure which he had himself recommended, had always an opposite tendency: for, to compensate the sufferings and disappointments of the patient, which resulted from their trial, a certain benefit always accrued to the prescriber. The fear of opposite events raised the wrath of Rowley to such a pitch, that he cast off all that decorum which is so stiffly maintained by the medical profession: he descended to put his name to vulgar hand-bills, and to employ bill-stickers to post up puffing advertisements, to quicken the tardy sale of his alarming publications. In consequence of his clamour and activity he was considered by many of the anti-vaccinists as their chief, though, from priority of enterprise, the palm was generally given to Moseley. Neither, however, displayed jealousy: their concord was complete, and they quoted and praised each other's works reciprocally.

We have doubtlessly reached a period in

which reason has acquired a limited sway over a small portion of the globe. But in the most lettered regions folly flourishes still; and sometimes, in the solemn and sacred garb of physic and divinity, plays off such fantastic pranks, as recall to our recollections the antic mummeries of the dark and dawning ages.

Two years ago an elderly moon-struck virgin had worn out her dreaming days in praying, preaching, and prophesying. But as ravings resemble inspirations, Johanna Southcott gained admirers. Many devout and neglected maidens are consoled by an inward persuasion of their being chosen vessels; and notwithstanding the pious humility of this visionary, after she had reached the borders of old age and decrepitude, she suddenly imagined that her shrivelled carcass was elected to be the temporary residence of God.

On this, a few of her fanatic followers were gathered together: they found Johanna entranced on a rush-bottomed arm-chair; her veiny hands were clasped together, her head was laid back, and her rheumy eyes rolled upwards, descrying invisible things. Wonder held all in suspense! At length the prophetess modestly muttered forth some strange sentences, which seemingly imported, "that the Spirit had descended into her womb; that she

various kinds; sometimes unlike, and on other occasions undistinguishable from the Small Pox. He then speculates on these different species of pustules; expressing suspicions of vaccine matter being occasionally converted by composition or decomposition into variolous matter. This ingenious chemical theory, the product of his laboratory, is supported by an unintelligible analogy with sulphate of magnesia; and he concludes by saying, that these variolous-looking eruptions depreciate the value of the discovery, but not to any great degree.

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pect still, that she will awaken from her trance, arise from the grave, and be gloriously delivered.

Rowley's frenzy was less transcendent ; for a ray of professional cunning always shone through his clouded intellects. In striving to gain notoriety, and to give an impression that he knew something of physic, he lectured ; and secured an audience of needy students, by making presents of his admission-tickets. In truth, he could descant on diseases in general, fluently and calmly ; but when the Vaccine was touched upon, he instantly became frantic.

One morning he had prepared a lecture on this unhappy subject, when, even on entering the room, his manner was evidently hurried.

He began by declaring an insuperable aversion to every hypothesis ; which, he said, was the rock on which ancient and modern philosophers had foundered. All presumptions, all probabilities, ought to be banished from the science of medicine, and no proofs that were not demonstrative ought to be admitted.

He then placed on the table a sickly pallid girl ; whose arm was first shown imprinted with a vaccine cicatrix. The body was next uncovered, which was spotted with a number of unsightly scabs. " Here," he triumphantly exclaimed, " is ocular demonstration of an undeniable fact. The parents of this hapless child

“ will inform you that she was born without a
 “ blemish ; but unfortunately five years ago she
 “ was contaminated with the Cow Pox humour.
 “ It lurked long in her blood, and now you be-
 “ hold its effects. This is the true Cow Pox
 “ mange.” After this disgusting spectacle was re-
 moved, he introduced a poor boy, whose face
 was swollen and much disfigured by a large ab-
 scess. He requested his auditors to inspect
 closely this unparalleled case. “ On this cheek
 “ you plainly perceive a protuberance arising,
 “ like a sprouting horn ; another corresponding
 “ one will shortly spring up upon the other side ;
 “ for the boy is gradually losing the human li-
 “ neaments, and his countenance is transmuting
 “ into the visage of a cow.”

The gravity with which this opinion was
 pronounced, increased the mirth which now
 shook the hall. The father, vexed that his son's
 illness was made the subject of merriment, car-
 ried him home in a huff. But Rowley had
 become incurable, and soon after published a
 bewildered work *, surpassing his own lectures.

* Cow Pox Inoculation no Security against Small Pox
 Infection. By William Rowley, M. D. &c. &c. To which
 are added the Modes of treating the beastly Diseases pro-
 duced from Cow Pox, explained by coloured Copper-
 plate Engravings, Cow Pox Mange, Cox Pox Ulcers, Cow
 Pox Evil or Abscess, and Cow Pox Mortification ; with the

It contained two engravings ; one, of the mangy girl, and the other, of the ox-faced boy ; but he candidly ascribed * the sole merit of discovering the metamorphosis to his friend Dr. Moseley ; who, he said, had often seen negroes distorted into the appearance of various animals by the yaws.

Rowley also confirmed † the truth of Moseley's assertion, that the Vaccine was a fatal disease ; in proof of which two hundred and eighteen cases were adduced, where new diseases and death had followed Vaccination. This hare-brained man, likewise, as is common with persons similarly affected, expressed pity for all who dissented from his opinion, considering them as downright madmen, and fit for Bedlam. Notwithstanding all this, Dr. Moseley and his partisans continued to uphold Rowley as a physician of respectable authority.

To these physicians, a surgeon soon associated himself, though, from the station he held, a better conduct might have been expected ; for Mr. BIRCH had attained the office of surgeon to one of the principal Hospitals in London, and was honoured with the appointment

Author's certain, experienced, and successful Mode of inoculating for the Small Pox. Audi alteram partem. London, 1805. (The above is an exact transcript of the title-page.)

* Lib. cit. Introduction, p. 8.

† Ibid. p. 6, 11, 38, 39, 81, &c.

of Surgeon Extraordinary to the Prince of Wales. Prudence, at least, usually prevented persons so conspicuous from plunging into the slough of anti-vaccinism ; but, to the surprise of his colleagues, Birch published *Serious Reasons for uniformly objecting to the Practice of Vaccination*. The most weighty of these was deduced from a conjecture, that what was denominated the Vaccine was sometimes the Small Pox, and at other times the Itch *. Yet, in spite of this theory, he also maintained, with Rowley and Moseley, that a brood of distempers, the offspring of the Vaccine, were newly sprung up. For Birch could not perceive, that if the Vaccine was either the Small Pox or the Itch, the direct progeny of these ancient families could not be brutal upstarts. But though the accusations against the Vaccine were all incongruous ; yet as they proceeded from professional men, whose designations, at least, were respectable, they were not innoxious. This was made manifest by multitudes being proscribed in the fatal tablet of the Small Pox by the triumvirate. Still some little good alloyed this evil : as by this they became known, and lost opportunities of a similar kind in all other diseases †.

* *Serious Reasons*, &c. by John Birch, &c. p. 36, 41, &c.

† Mr. Birch's capacity never cast doubts on his sincerity :

Such were the chiefs who commenced the opposition to Vaccination ; and they were soon supported by an ignoble crowd of pamphleteers, who bore testimony to the existence of the monstrous new diseases which were pretended to arise from the Vaccine. One of these was a common quack, who lived by the sale of an infallible powder ; another was a wretch, at that time suspected, and soon after convicted and imprisoned, for infamous conduct : most of the others were obscure, starving, or disappointed practitioners, who strove by this means to acquire a little notoriety and employment. The

he strenuously opposed Vaccination while he lived, and now that he is gone, he opposes it still. For, lest his paper compositions should speedily perish, a marble tablet has been erected in the church of St. Margaret Pattens, with an inscription to commemorate his sentiments.

The lapidary style of the Serious Reasons is continued on this more solemn and appropriate occasion.

The epitaph is long, but not tedious ; and the part which belongs to the present subject shall be transcribed.

“ But the practice of Cow Poxing,

“ Which first became general in his day,

“ Undaunted by the overwhelming influence of power and prejudice,

“ And the voice of nations,

“ He uniformly, and until death, perseveringly opposed ;

“ Conscientiously believing it to be a public infatuation,

“ Fraught with perils of the most mischievous consequences to mankind.”

Thus, “ Even in our ashes, live their wonted fires.”

event showed that much mischief may be done without talents ; for, so loud a clamour arose, that the progress of Vaccination was checked ; and Jenner was for a time impugned, as the polluter of the blood of the human race. But this ingenious man had created a phalanx of disinterested and active friends, who defended his system, and justified all his ways. Mr. Ring*, in particular, rolled through the town, and round the suburbs, to trace the reported failures to their source, and to sift the cases in which mischief was imputed to the Vaccine. Mr. Blair, and many other respectable surgeons, co-operated in these researches, and soon detected that the pretended cases of new distempers were either gross misrepresentations or impositions. But Jenner's friends could not refute as fast as Rowley's could invent ; for lists of vaccine catastrophes succeeded to lists in quick succession.

It has since been confessed by a journeyman apothecary, then out of place, that he was one of the persons employed and paid by Rowley for finding out cases ; that all he heard of he carried to Rowley ; and when rumours failed, he forged names, addresses, and disasters, at his own hazard : for Rowley's love of miseries rendered him the dupe of his informer.

*. Author of *Treatises on the Cow Pox, Gout, and other works.*

This secret was then undiscovered; but a scrutiny was published of the writings of those authors who opposed Vaccination *.

Their arguments, facts, and theories, were all compared, and examined by the light of internal evidence: this confrontation they could not sustain, and the admission of every fact proved a sure, as well as a courteous method of destroying their credibility. Even the transmutation of the boy was freely granted: two physicians had attested it: the boy's address was published, and all might see him who pleased.

Besides an ancient author, a correct observer of nature had noticed a similar phenomenon: Puck's case by Shakespeare was closely in point, though Rowley and Shakespeare have differed about the cause. But surely the wand of a fairy is a much more probable agent of such an effect, than vaccine lymph, which had not then been discovered. And since Rowley erred so palpably in the cause, he might also have been incorrect in the fact; for, instead of metamorphosing the boy, it was more natural for the arch goblin to play the same prank upon the doctor, which he performed so featly on Bottom the weaver.

None of Rowley's friends denied the justness of this conjecture, and the poor ass himself

* A Reply to the Anti-vaccinists, 1806.

never brayed more. Indeed, the anti-vaccinists afterwards carefully shunned all mention of new diseases : but they poured from the press, and clamoured through the town, disastrous accounts of eruptions, humours, and common disorders, which were all attributed to the Vaccine, and were sometimes attested by respectable people.

The most ignorant are usually the most facile in affirming the causes of medical facts, and imagine they cannot be mistaken concerning what they have actually seen or suffered. But reflecting physicians know, that a life of laborious research is often insufficient to ascertain the truth of one cause of a disease. For the necessary evidence is very different from that which is adequate in ordinary occurrences, or even in judicial proceedings. One positive witness, supported by two or three circumstantial testimonies, is deemed sufficient to convict an accused person of murder, and to inflict upon him the pains of death. But the solemn declarations or oaths of hundreds, nay of thousands of disinterested people, are often inadequate to render medical causes or effects in the slightest degree probable. This is owing to the generality of mankind rarely discriminating facts from opinions ; and, instead of confining their assertions to those events which are cognizable by the senses, they superadd the

judgments which they form respecting the causes or effects of the facts.

Infinite are the errors thus unwittingly committed. For, as mankind are more anxious to know, than patient to investigate, when two incidents are observed to succeed each other, the first is often with too little consideration adjudged to be the cause of the second. The satisfaction produced by this apparent knowledge, frequently prevents due attention to all contradictory facts, which would bring into the mind the disagreeable intrusion of doubt. Whence even a single contingency is received by many, as a sufficient proof of the relation of cause and effect; but when similar contingencies, though fortuitous, have been repeatedly noticed, the conviction of the one being the cause of the other, becomes so rivetted in the mind, that nothing but the wedge of philosophy can sever them.

In the more certain sciences, such false deductions are drawn occasionally, but in medicine perpetually; for, in the latter, no other proofs can be found, than the probable; and the number and value of these are not easily calculated. There is, besides, a peculiar difficulty which often checks the prudent from drawing any inference respecting causes, but which with others is the source of an infinity of false conclusions. The changes which are constantly taking

place in the animal economy are numerous, and these are multiplied during disease. In this state, sometimes after a spontaneous tumultuary action of the organs of the body, and at other times after an unusual abatement of action, health is restored. It has thence been concluded by many eminent pathologists, that nature alone has a power of remedying distempered bodies. When to this variety of natural, diseased, and remedial actions, there are super-added the artificial operations of medicines and medical treatment, it becomes most difficult, and often impossible, for human sagacity to discriminate precisely the causes of the effects which are witnessed. Yet ordinary persons have often no hesitation in believing and affirming positively, that a particular drug or doctor cured or killed those, who have recovered from, or perished by, the most obscure diseases.

Physicians, however, perhaps gain, as much as they lose, by the senseless judgments of the world. For, in a thousand common ailments, though no remedies were used, probably not above two or three would prove fatal. And if all were treated by a physician who should direct nothing injurious, he might acquire by the results considerable credit. Even should all those cases have fallen into the hands of an ignorant impostor, and though the salutary operations of nature should have been weakened or counteracted by his interference, and ten or

twenty actually destroyed ; he might still have a pretext for boasting of having cured nine hundred and eighty or ninety sick persons. This calculation is sufficiently accurate to show also the preference which is due to a good physician. . . .

Perhaps no problems are more difficult to be solved, than those in medicine, even by the profound ; and certainly none are so confidently decided upon by the superficial. In the History* of the Small Pox numerous examples were exhibited of erroneous opinions being formed by ingenious physicians, and prevailing for ages ; and multiplied instances of the same kind could be shown in the history of every other disease. But it is also certain, that, as physicians advanced in knowledge, they became more diffident in assigning causes and less dogmatic in predicting effects. This augmenting modesty in the learned, does not extend to the rest of the profession. From the temerity in judging medical points, the wildest absurdities have gained belief among men of the highest capacities in all ages and in all countries. Indeed, on no subject could the aberrations from reason of the most philosophic nations be more strikingly manifested, than by a history of the various medical superstitions which have prevailed in the world. For, magical and sacred words, signs,

* By the Author.

statues, metals, stones, trees, flowers, herbs, and substances as various as the illimitable fancy of man could devise, have been thought the causes, cures, and preventives of innumerable distempers.

In the most brilliant periods of ancient Greece and Rome orators and philosophers of eminence were firmly persuaded that diseases were often cured, and death averted, by gifts vowed, or victims sacrificed, to Apollo and Æsculapius; and the divine attributes of these phantasms were also believed to be possessed by their images, and by innumerable inert animal, vegetable, and mineral substances. This latter superstition continues in some parts of the globe, to the present times. An episodic example of this, not perhaps devoid of interest, shall be given*.

When Seringapatam was stormed by the British forces, Tippoo Saib defended the breach with his choicest troops. He fired repeatedly, and brought to the ground some of the boldest assailants; and persevered in the defence of the successive traverses of the fortifications, until most of those who accompanied him were slain or put to flight. In these conflicts

* Asiatic Annual Register, vol. i. p. 224; vol. ii. p. 101. Beatson's View of the Origin and Conduct of the late War with Tippoo Sultan.

having received a wound in one of his limbs, he mounted a horse, and resolved to force his way into the inner fort, to close the gates, and attack those who had already entered.

But as he pushed onward through the gateway, a heavy fire from the front and rear was directed towards him: his soldiers dropt around: he received more wounds, the regal turban fell from his head, and his horse sunk under him. In this last extremity a few remaining adherents raised the fallen Sultan, placed him on a palanquin at the side of the gate, and were then driven out, or fell by his side. At length, in the tumult, a British soldier spied his rich sword-belt, and attempted to pluck it off: on this, the indignant prince exerted his remaining powers, and struck him on the knee with his sabre. His antagonist instantly pointed his firelock, shot the Sultan through the temples, and passed on unconcernedly, leaving the body amidst three or four hundred dead or dying men, who were strewed under the gateway. This event being unknown, strict search was made for the Sultan, and towards evening the palace was surrounded by the British. For, besides the ordinary guard commanded by a confidential Killadar, crowds of fugitives had taken refuge in the royal residence, in which, as a sanctuary, the two sons of Tippoo, and above six hundred trembling females, remained. For-

fortunately for them, Major Allen *, bearing a flag of truce, entered the palace. When admitted into the apartment of the princes, he took the eldest son compassionately by the hand, consoled him, assured him of his safety, and induced all to yield without further resistance. General Baird, who was at the gate, could not have forgotten the savage treatment he had endured during a captivity of two years in this fortress. He commanded in the storm, was heated by the conflict, and enraged by having just heard that the Sultan a few days before had barbarously massacred some British prisoners, who had lately fallen into his hand. Notwithstanding which, when the young princes were led out by Major Allen, he received them with sympathy, ordered the troops to salute them, directed that they should be conducted to a place of safety, and treated with the respect due to their rank.

In consequence of some vague information, Major Allen, accompanied by the Killadar, and preceded by a torch-bearer, went to search the arched gateway. In this scene of carnage, Rajah Cawn, a confidential servant of the Sultan, lay wounded; who pointed out the spot where his master had fallen. But the perturbed Killadar could hardly recognise by the glimmering

* Afterwards Colonel Allen, Member of Parliament for Berwick.

light of the torch the countenance of the tyrant, once so stern, but now, how much altered ! The corpse was conveyed to the palace, and was curiously surveyed by numbers of the British. It was still warm ; and as the eyes were open, doubts were entertained of his death. On which Colonel Wellesley* put his hand upon the heart, to feel if it still beat.

On undressing the body, there was found upon the right arm a talisman, consisting of an amulet of a brittle white metallic substance, sewed up in pieces of flowered silk, and in manuscripts inscribed with magical Arabian and Persian characters. This had been constantly worn by this politic and warlike prince, as a sure preservative from disease and wounds. The invention of such a superstition, which has descended from the remotest antiquity, must appear strange ; and it might be asked, could not the wise men of the East observe, that bullets and pestilences paid no respect to their most potent talismans ? But the properties of amulets have ever been maintained on the grounds of experience, on the very principles of Bacon's philosophy ; as the fortunate possessor usually escaped death many times, and never died but once.

* Since Duke of Wellington.

Such notions are not confined to Asia: but in Europe the fashions of folly are more mutable; though there are still remaining here some obscure traces of magic and witchery. Philosophy has gradually undermined this enchanted structure, but cannot boast of having subverted the medical reputation of Apollo and Æsculapius. For, the pagan deities lost their divine attributes in the fourth century, more by the intolerant decrees of Theodosius, than by the intellectual rules of logic. On this persecution the physical virtues adherent to Greek and Roman statues were transferred to the images of Christ, of the Virgin, and of an host of martyrs, and to sanctified places. During many centuries multitudes of sick confidently expected to be restored to health by drinking at a well where a weary hermit had washed his feet; the dying hoped to escape death by kneeling all night on the cold tomb of a saint; and the touch of an Apostle's bones even resuscitated the dead.

Many relics acquired such distinguished renown, that the kings of England and France appeared to have been seized with envy, and undertook the cure of a most untractable disease. They practised, according to historical and medical records, with miraculous success, for between six and seven hundred years. Unquestionably, some of these Christian kings per-

formed their medical functions with sincerity ; but they were probably ignorant of heathen princes having antecedently displayed the same proofs of their divine rights.

Pyrrhus of Epirus * corroborated his claim to a disputed throne, by curing with a touch of his great toe, those who were afflicted with distempered spleens ; and accepted in recompense a white cock from each patient. Even after the monarch's decease, this toe, according to the sage Plutarch †, was inconsumable. When Vespasian, who was of humble birth, had arisen to the chief command in Asia, both a blind and a lame man were informed by the god Serapis, that the proconsul could cure them. This he publicly performed, and thence concluded, that he was destined to wear the imperial purple. Hadrian ‡ also restored the blind to sight. Such notions are now derided ; but many of the scoffers credit others equally preposterous. For, although magical incantations, superstitious rites, and the royal touch, have been expelled from physic, yet they have been succeeded by electrical, magnetic, galvanic, and medical mysticism. As what is

* Plutarch, the Life of Pyrrhus ; also Plin. Nat. His. lib. vii. cap. 2. “ Sic ut Pyrrho regi pollex in dextero pede, cujus tactu lienosis medebatur.”

† Taciti Hist. lib. iv. c. 82. C. Sueton. lib. viii. c. 6.

‡ Vita Adrian. Ælio Spartiano.

unknown is usually admired, and cures follow every treatment, innumerable secrets have always wondrous success. So, in this improved age, and in the enlightened city of London, belts of hidden composition, and magnets oddly carved, are sold for the cure of the gout and rheumatism: ox-bone beads, termed anodyne necklaces, are hung round the necks of infants of the highest and lowest ranks, to preserve them from fits; and thousands of bits of brass and iron soldered together, for the cure of twenty diseases, were lately purchased, under the name of galvanic tractors, at six guineas a pair. Modern empirics often save themselves the trouble of invention, and only revive an exploded folly. What in the darkest ages exceeds that which may be seen daily in London—numbers of well-dressed persons, carrying in their pockets a full phial, and knocking at a water-doctor's door? These patients, who have a rational appearance, not only attend to the advice given, but swallow the drugs which are administered to them, and pay dear for both.

There is, besides, a respectable and shrewd looking female physician, who has contrived to save herself the trouble and expense of preparing physic. She keeps a handsome equipage for attending her patients, who are generally ladies of rank, and always of fortune; and her whole art consists in wagging at them her thumb and

fingers, which is done so adroitly, that some are cured and all are duped.

It is most likely that the influence of these successors of mountebanks and jack-puddings is on the decline, yet by no means rapidly; for the ingenuity of empirics keeps pace with the extension of knowledge; and they play their improved pranks on the hopes and fears of the sick with such address, that it is not rare to find men of abilities both in the law and church ranked among their gulls. When will this cease? Never, while persons not conversant in the principles of medicine, shall conceive themselves competent to judge of remedies; and, from accidental occurrences, shall venture to draw inferences in a science which requires to be scrutinized by much stricter logical rules, than are in common use.

There is no reason to suspect that Rowley or his partisans understood the principles of quackery; but they could not be ignorant of the fallacy of the vaunted results of empirical experience. They were threatened with the loss of the Small Pox, and feared that the proneness to confide in pretended antidotes might be converted into a belief of a real preventive.

Interest made them hostile to Vaccination, and all at first joined in the cry, that it excited a swarm of new diseases. But the ridicule cast upon the two examples which were produced,

greatly tended to hush this din. Yet some growling about bestial humours continued to be muttered by the worst-bred curs of the pack. The rest had the discernment to perceive that it would suit their interest better, roundly to accuse the Vaccine of being the cause of those maladies which children were actually subject to ; nor were they restrained by the absurdity of assigning a cause newly sprung up, to effects which had existed time out of mind.

On this plan there was no want of vaccine disasters ; for, whenever a child was affected with a disagreeable eruption, or any other uncouth disorder, whose origin was obscure, they peremptorily affirmed, it was produced by the previous Vaccination, although with equal reason they might have imputed it to the previous baptism. But as this account vindicated the constitution both of the child and its parents, it was gladly received, and eagerly repeated to all inquirers ; which brought the Vaccine into great disrepute. This doctrine made a deeper impression in proportion to the softness of the intellects of the hearers, and produced in multitudes a preference to variolous inoculation. In forming this decision, it was forgotten, that the charge against the Vaccine was equally applicable to Small Pox inoculation ; and, indeed, was only the renewal of an old accusation of that practice. But since the period of the introduc-

tion of inoculation, there had been ample time, and the subject had been seriously attended to: and the profession had become universally of opinion, that variolous pus inserted into a wound elicited the Small Pox alone, and never any other malady to which the person furnishing the matter was subject. Inoculation was as free from this tendency as the casual infection. Indeed, the law respecting all infectious diseases, as Small Pox, measles, the plague, and others, was in this respect the same. In whatever form, or by whatever means, the infection is conveyed, the specific disease under which the patient labours at the time is alone communicated, and unmixed with other complaints to which the person infecting may be disposed.

Were it otherwise, each individual of the present generation would be overwhelmed with an accumulation of distempers. But although the disease contracted by infection is simple, yet, after it has finished its course, it is not unusual for ailments of a different character to occur. These last disorders have evidently no reference to the subject from whom the infection was derived; but are to be attributed to the patient's constitution, and to the shock the system has received by the disease. Thus the measles sometimes leaves a tendency to inflammatory affections of the lungs and eyes; and scrofulous symptoms sometimes follow the Small Pox. But

instead of the latter proceeding from the pus used in inoculation, the intelligent have observed, that they occurred more frequently after the casual, than after the inoculated Small Pox, the former mode of contamination being the more violent.

The above principle, which governs other infectious diseases, also applies to the Vaccine. This infection is of the mildest nature, it can neither be conveyed by the breath, nor by perspiration ; it can only be excited by depositing in a wound, or upon an abraded surface, some vaccine lymph.

Whether the lymph was taken from a cow, or from the human subject, the malady produced is simply the Vaccine : and respectable observers have never detected any other effect from Vaccination. There are not even those grounds of suspicion which are attached to variolous inoculation : for, the vaccine process is so gentle, as neither to enfeeble the habit, nor to rouse into action any indisposition which may be lurking in the constitution ; and its influence is so transient, that in a very few days even delicate infants recover their pristine health.

CHAP. IV.

OF SMALL POX OCCURRING AFTER THE VACCINE ;
AND OF SMALL POX AND SEVERAL OTHER IN-
FECTIOUS DISEASES, IN SOME INSTANCES, RE-
CURRING TO THE SAME INDIVIDUALS.

THE groundless objections, hitherto raised against Vaccination, had at first a more powerful influence, than one now to be considered, which has some foundation. It was gradually observed, that a few of the multitudes who had been vaccinated were subsequently attacked with an eruptive fever. An outcry immediately ensued; some affirming, and others denying, that these eruptions were variolous. Strong attestations were signed, and virulent pamphlets were printed; for zeal and faction carried each party to extremes. But when this fervour had a little abated, it was evident to the impartial, that both had been in the wrong.

It was shown in the History of the Small Pox, that the same accusation was formerly raised against inoculation by Wagstaffe, De Haen, Van Swieten, and others: when the over-zealous advocates for that practice, in order to repel the charge, positively denied that the Small

Pox had ever attacked the same individual twice. A similar indiscretion was committed by some warm friends of Vaccination *. They refused their assent to the evidence in any case where Small Pox was said to have seized a person who had previously been vaccinated, and were precipitately convinced that Vaccination was an infallible preventive of Small Pox for life. Assertions of that force ought to have been left to the modern church of Rome: they were not in use in the ancient ritual. For Quintus Cicero †, an orthodox pagan, and a staunch believer in augury, supported this doctrine by boldly comparing it with the science of medicine; and maintained that the predictions of a soothsayer were not more fallacious, than the prognostications of a physician. Although the aptitude of this simile is inadmissible, yet it must be granted, that infallibility is inapplicable to human nature. Even in mixed mathematics, though the demonstrations are universally true in theory; yet, when the principles are put in practice, failures are frequent; for it is impossible to form

* Amongst whom was the author.

† “ At nonnunquam ea, quæ prædicta sunt, minus eveniunt. Quæ tamen id ars non habet? Earum dico artium quæ conjectura continentur, et sunt opinabiles. An Medicina non putanda est? Quam tamen multa fallunt.”

Cicer. De Divinat. lib. i. § 14.

figures, and to mould matter, conformably to ideal perfection. Since invariable success is denied to the mathematical arts, was it to be expected in medicine; the practice of which is not founded upon fixed self-evident propositions, but upon an imperfect knowledge of the animal economy, and of the numberless agents and events which influence the solids, the fluids, and organization of the bodies of ever-varying men; each individual of whom is dissimilar to every other: and all are moving, acting, and suffering under different circumstances; and changing perpetually from their first conception, even till their death. On a transient view of this incalculable variety, it might seem impossible to approximate to any rational system. But upon a closer inspection it is perceived, that there is a considerable similarity in the structure and operations of all human bodies; and that the deviations and disturbances of which they are susceptible, are limited to a certain range, beyond which life cannot subsist. It is owing to the portion of uniformity, harmony, and regularity in the construction and functions of the human organs; and to the aberrations, discordances, and anomalous irregularities being limited in extent, that there is a basis for the doctrines of physiology and pathology. Perfect health would require a faultless body and mind, residing in the most salubrious atmosphere and temperature,

employing the diet, exercise, and repose, which was precisely adapted to the constitution, and never encountering either mental or corporeal evils. This ideal state of felicity was never for an instant enjoyed on earth by any human being. For every infant is born with some hereditary imperfection; and has its nerves irritated, its organs disturbed, and its volition controlled, from the commencement, until the termination of life.

The movements of the animal machine are, however, more regular, in proportion as individuals approach to the imaginary state of perfect salubrity; and become irregular, as they diverge into that of disease.

In distempers, the confusion is in every possible degree; and the perplexities are infinitely varied. Yet in this maze there is a plan; there are concordances by which maladies may be classed; and there are general principles which influence their commencement, progress, and termination. All medical prognostications depend upon a knowledge of that degree of regularity which usually takes place in diseases. But no absolute dependence can be put upon them, on account of the anomalous deviations which occasionally occur. There are also many medical maxims which prove sound generally, but which nevertheless fail in particular instances.

Among others, this has been observed, that there are certain maladies which are apt to afflict the same persons repeatedly; and the oftener they have taken place, the more prone they are to recur. Gout, rheumatism, catarrh, and ophthalmia, are of this kind. Yet, notwithstanding the general truth of this position, there are some persons, who have had one attack of these maladies, and through a long life have never had a second.

To contrast with this, there is another class of diseases which mankind in general are susceptible of contracting only once. But each of these diseases have assailed some individuals more than once; except one, whose first attack is supposed to be always mortal.

Diseases of this second class are all produced by morbid poisons, either in a liquid or gaseous form; and are certainly of a less ancient origin than those distempers which are excited by cold, heat, moisture, surfeits, want, marshy vapours, and other causes whose existence has been coeval with the world.

The most terrible of the morbid poisons is the saliva of a dog affected with hydrophobia. Whenever this deleterious fluid has been deposited in a wound, and has begun to stimulate the living fibre, the human powers are quite inadequate to expel, or to resist it; and as no remedy has been found out capable of controlling its

violence, the disease continues, until the vital powers are extinguished.

The siphylitic poison is also superior to the medical powers of nature, and would be as fatal as the hydrophobic, if an antidote had not fortunately been discovered to counteract its virulence. But as this disease can only be cured by the operation of medicine, and not by the natural actions of the body; as soon as the influence of the medicine has ceased, the body again becomes susceptible of the disease; and this malady may be contracted again and again by repeated applications of the contagion.

The other morbid poisons, the Plague, the Small Pox, Chicken Pox, Measles, Hooping Cough, Mumps, the Scarlet, and perhaps some other fevers, are all distinct infections, yet regulated by similar laws. When a man in health contracts for the first time any of those infections, he is seized, at a regular period, with the peculiar symptoms of the malady; and there is formed in the contaminated body abundance of infectious vapour, which evaporates from his person. The disease sometimes proceeds in a tranquil, and at other times in a most tumultuous course. But if its progress is not interrupted by death, after it has reached to a certain height, and when infection is steaming from every pore, the symptoms meliorate, the production of the morbid matter de-

elines, and stops; that which was formed is eliminated; the body becomes insensible to the stimulus of the poison, and gradually resumes a state of health.

Unless this alteration in the body took place, all these maladies would be mortal in every instance; for there is no specific for any of them known.

The old physicians, either from reluctance to acknowledge their incapacity of accounting for these favourable events; or from a facility of admitting mysterious words as adequate causes, imputed the whole to the medical powers of nature. This continues to the present times a favourite phrase; and is even sometimes styled a doctrine. But whatever produces that insensibility to the stimulus of these poisons, which is acquired in the progress of these diseases, the altered state of body usually continues through the remainder of life. Individuals, therefore, who survive one attack of these distempers, commonly resist the infection ever afterwards. This general maxim, however, like all others, has its exceptions. It is universally admitted, that the plague has frequently attacked the same persons repeatedly: and that the hooping cough, mumps, and scarlet fever, have sometimes seized the same individuals oftener than once, is rarely denied. But the recurrence of the measles has been disputed.

This scepticism, however, is not certainly to be found in the very early writers, most of whom admit the occasional exception; and the evidence of later times is quite decisive. Richard Morton saw one case where the measles occurred twice; Professor De Haen* attended two patients of the same kind; and Burserius† has collected a number of examples from unquestionable authority, where the measles took place twice. In addition to which, Dr. Baillie, a physician of the most clear and unbiassed judgment, lately observed, and distinctly described ‡, eight examples of this incident: since which, this question seems to be considered as settled.

That the Small Pox was also governed by the same general rules was never doubted, until variolous inoculation and Vaccination became subjects of medical feuds. But the friends of inoculation in the middle of the last century, and the enemies of Vaccination of the present day, have ventured to deny that Small Pox ever had attacked the same persons twice: which denials are in opposition to recorded affirmations from the highest authorities. The profession indeed of late has been excited to a close con-

* Ratio Medendi de Haen.

† Institut. Medicin. Pract. Burser. tom. ii.

‡ Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge, vol. iii.

consideration of these points ; and a multitude of examples has been published of Small Pox having seized certain persons twice. Which facts are so common, as no longer to excite particular attention.

Although many of these cases were well founded, all certainly were not ; indeed, it is often difficult, or impossible, to determine the matter.

There are two principal causes of this embarrassment : the first applies, not only to Small Pox, but to all the other infectious diseases of this class ; namely, that the second attack is generally mild. This mitigation of the symptoms, together with a corresponding alteration in the form of the disease, easily deceived those who were prepossessed against the recurrence of the malady. And it is so remarkable, that perhaps there is no instance on record in which a secondary attack of the hooping cough or measles proved fatal.

But as the Small Pox is a much more virulent disease than either, there are several authenticated instances recorded, in which the second attack of Small Pox was of the confluent kind, and destroyed the patients.

The other cause of the difficulty of ascertaining the secondary attack of Small Pox, is the resemblance of this disease to the Chicken Pox.

According to systematic writers, this is an easy business ; for, to render their discriminations clear, they dwell upon the striking characteristics of well-marked examples, and pass slightly over the blended forms and evanescent symptoms of obscure cases.

Yet, perhaps, no distemper is more diversified than the Small Pox ; Sauvage has divided it into twelve species ; but if he had chosen to consider each variety of the figure, the contents, and duration of the eruption, as a distinct species, he might have made upwards of a hundred. In fact, the variety is indefinite : for sometimes the complaint is so gentle, that the symptoms elude almost medical research, and even the patient is insensible of the disease. While at other times it commences like a hurricane, and infants are swept off in convulsions. But should the first storm be sustained, a most malignant fever ensues, attended with severe pain, vomiting, diarrhoea, sanguine urine, profuse sweats, chilling rigors alternating with burning heat, thirst, and delirium. Frequently a transient alleviation of the symptoms raises false hopes of a favourable issue : but after a short respite, the disease returns in a more terrible form, and destroys at once, or gradually wastes down, the wretched victim.

Besides these extreme cases, the Small Pox assumes a thousand intermediate appearances.

Nor is the character of the eruption less multiform. For there are on some occasions only a few scattered pimples, the number decreasing to two, three, or one. Indeed some authors, among whom was Boerhaave, conceived that the malady might take place, without a single spot breaking out. Whereas in other instances the whole surface of the body, together with the inside of the nose, mouth, and throat, are thickly studded with innumerable pustules. The contents of the pustules in different cases, also assume every varied form of purulency: being sometimes thick, sometimes thin, viscid, limpid, serous, ichorous, white, yellow, green, red, brown; or even black.

Besides this diversity in the symptoms and appearance of the Small Pox, a new variety has lately been produced in some of those persons who have previously been vaccinated: In this species the antecedent fever is slight, transient, or imperceptible; and followed by a few fugitive pimples, which desiccate and vanish in four or five days. In other instances, the fever runs higher, and the pustules are more numerous: they very rarely however reach the full size of the common Small Pox; and they are almost always accompanied with less inflammation and interstitial tumefaction. The secreted liquid of this eruption is usually thinner, more serous, or less purulent, than the secretion

in the ordinary disease; yet, if employed for inoculation, produces the common Small Pox. The desiccation in this variety begins on the third, fourth, fifth, or sixth day; and, owing to the thinner consistence of the secretion, the crusts are small and quickly drop off.

But in some very uncommon deviations from the usual course of events, this disease has taken place with excessive vehemence, and has been followed with a most numerous or confluent eruption, which in a few very rare instances has even proved fatal. Except, however, in these last unfortunate cases, the symptoms of the Small Pox in those who had previously been vaccinated, are considerably milder, than in those who are equally covered with pustules of the primary kind. And at the height of the eruption, which is sooner than common; instead of a renewal of the fever, and the accession of dangerous or fatal symptoms, the malady takes a favourable change, and the patient becomes quickly convalescent. In these cases, the body is soon cleared of the crusts; there are rarely pits, nor do the eyes suffer.

This new species of Small Pox, which has attacked a few of those who had been vaccinated, is analogous to the secondary attacks of that disease which were formerly noticed; it has however occurred much more frequently; but on

a strict examination, it has usually appeared, that the vaccine process had been incomplete or interrupted. In one of the fatal cases above noticed, only one vaccine vesicle had been excited, which was afterwards punctured for lymph. But the possibility of an unfortunate exception to a general rule ought never to be denied.

The effects of the Vaccine upon the living body are less virulent, yet regulated, in most respects, upon the principles which are common to all the other morbid poisons. But the reciprocal control, which vaccine lymph and variolous pus maintain over the actions of each other are peculiar to them.

The local effects of Vaccination are usually these :

After twenty-four hours the punctured point begins to inflame, and there gradually arises a small vesicle with a regular rounded edge, which contains in little cells transparent lymph. About the ninth day an inflamed areola, with tumefaction and hardness, forms around the turgid vesicle. On, or near, the eleventh day, the inflammation begins to decline, and as it fades, it often leaves one or two concentric red circles, which continue, for as many days, visible. The fluid in the vesicle then grows muddy, darkens, and desiccates into a mahogany-coloured crust, which drops towards the

end of the third week, and leaves a superficial eschar.

After variolous inoculation, inflammation commences, reaches the acme, and declines very nearly at the same periods. But the greater virulence of this poison excites a higher stage of inflammation, and produces a suppurating pustule with a stellated edge, which is larger, and longer in crusting, than the vaccine vesicle.

The scab from inoculation inclines to an amber colour; it is longer in separating, and leaves a deeper scar.

The constitution is assailed near the ninth day, both after Vaccination and variolous inoculation, with fever: but in the former case the symptoms are usually hardly perceptible, and in the latter they are frequently alarming.

About the tenth day of variolous inoculation, the virus commonly produces a pustular eruption, and an infectious vapour issues from the patient, contaminating the atmosphere all round. Neither of these consequences proceeds from the Vaccine. For in this disease the power of infecting is confined to the liquid secreted in the vesicle, which only acts when applied to a wound. And though no eruption usually occurs, in some rare instances, a rash or a few red spots appear for a day or two upon the skin, at the time which corresponds with the breaking out of the Small Pox pustules.

It was formerly noticed, that during the variolous disease, as well as during several other infectious fevers, the constitution acquired an insensibility to these morbid poisons. The same law also applies to the Vaccine: but it is most singular, that the Vaccine and the Small Pox infections should reciprocally obviate the irritability of the constitution to each. Hence all persons, with a very few exceptions, after passing through either the Small Pox or the Vaccine, are for the remainder of their lives insusceptible of both.

This acquired insusceptibility is not, however, so complete, but that some local effect may be excited by insinuating variolous pus or vaccine lymph into a wound.

These infectious liquids are apt always to stimulate the part into which they are inserted, to excite some inflammation, and to produce a pimple of short duration. And the contents of these imperfect vesicles or pustules, possess the specific quality of the infection which produced them. In general this local irritation is very trifling, and ceases in a few days: but in other habits the effect is more considerable, and may be re-excited, as often as vaccine lymph or variolous pus is applied to a fresh wound.

On these occasions hardly any perceptible constitutional disorder occurs; but there are some

exceptions also to this ; and it has sometimes happened, both that the Small Pox has occurred twice to the same individual, and has attacked those who previously had the Vaccine. Also there have been instances of the Vaccine occurring twice ; and of a regular vaccine vesicle having been excited in some who had passed through the Small Pox.

When the vaccine and variolous virus are inserted at the same time into a person who has had neither malady, both poisons proceed independently, and excite their specific actions. But when either vaccination or variolous inoculation is performed twice on the same person, with the intervention of a few days, if the first operation succeed, the process advances to its regular termination ; and if the second also take effect, the course of this latter infection generally stops when the first has reached the height, and both the vesicles or pustules decline and desiccate together.

The similitude of the effects of variolous pus and vaccine lymph, and their mutual control over each other, render it not improbable that they are only different species of the same genus of morbid poisons : which confirms the expectation, that the Vaccine may prove as certain a preventive of Small Pox, as a single attack of this disease is a protection against a second. But this is strenuously denied by the opponents

of Vaccination, who allege that the number of cases in which Vaccination has failed in completely preventing the Small Pox, exceed the proportion of those in which the Small Pox occurs twice.

In making this estimate, however, an error has been committed, by comparing the results of the primary practice of Vaccination, with those of the most improved state of variolous inoculation: forgetting that when the latter operation was introduced, failures of every kind were far more frequent than of late; and that even the deaths amounted in early practice to one in fifty cases *.

In like manner Vaccination, on its introduction, was sometimes so misconducted, that two children in a workhouse were actually destroyed by it; although, when skilfully practised, it is really less dangerous than opening a vein, or even cutting a corn. A multitude of lesser mistakes were then committed by the ablest men of the profession; who, deceived by analogy, imitated too closely the plan of Small Pox inoculation: and many were not sufficiently aware, either of the deteriorations to which vaccine lymph is subject; or of the mischiefs which arise, even when the lymph is pure,

* Vide History of the Small Pox, by the Author, p. 235, 236.

from the vaccine process being imperfect, interrupted, or disturbed by violence or disease.

The number of failures from all these sources of error in early practice, have been considerable. It is therefore too soon at present to compute and compare the number of cases in which Small Pox has occurred after inoculation and Vaccination.

The latter practice has been even brought in a very few years to such a degree of perfection, that in competent hands the failures are extremely rare. In the year 1813, a Report was published by the Imperial Institution of France, stating that 2,671,662 subjects had been properly vaccinated in France, of whom only seven cases had afterwards taken the Small Pox; and it was added, that the well-authenticated instances of persons taking the Small Pox after variolous inoculation are proportionally far more numerous. The French medical reporters had not however sufficient grounds for this conclusion, especially as more of the vaccinated might afterwards contract the Small Pox.

In England no registers have been kept of so vast a number; but the success of some charitable institutions proves, that when Vaccination is properly conducted, there will be very few failures. In the Foundling Hospital of London, this practice was introduced in the year 1801; and though the children are sometimes

intentionally exposed to the infection of Small Pox, yet in sixteen years only one slight case has occurred, in which a variolous eruption was suspected. In the York Military Asylum there has been the same success. The National Vaccine Establishment was founded by Government in the year 1809 ; and in eight years, to January 1817, there had been vaccinated by the surgeons of that institution in London and its vicinity 34,369 persons. And although the Small Pox has been constantly prevalent, yet at that period only four of the above number were known to have contracted the Small Pox, which is about one in 8592 cases ; and in those four the disease appeared in a mitigated form, without danger.

From these authentic facts it is quite certain, that failures of Vaccination when the process is regular, and the constitution fully influenced, are exceedingly uncommon : and as the vaccine and the variolous infection coincide in so many points, it is perhaps safe to conclude, that the former will never fail to prevent the Small Pox, except in those very rare and peculiar habits which are susceptible of contracting the Small Pox oftener than once.

But, however clear the doctrinal points may be, their application to particular cases is frequently attended with insurmountable diffi-

culties ; for, who is there that knows with absolute certainty any disease ?

The genius of the ancient physicians struck out compendious descriptions of diseases ; and modern nosologists have arranged them into comprehensive classes, and subdivided them into individual species, imitative of the systems of naturalists. Both these plans have been useful, though both are defective ; for no disease has been so skilfully designated, as to be always distinguishable from every resembling malady.

The occasional similitude of the Small Pox and Chicken Pox has been pointed out ; and an attempt towards a more complete discrimination will be made in the subsequent chapter. But when all the varieties of the primary and secondary attacks of these diseases are considered, and when to these are added, the modifications subsequent to complete and incomplete Vaccination, the difficulty and impracticability of ascertaining the precise nature of some eruptions must be obvious. Inoculation from the fluid of doubtful cases, has been proposed as a decisive experiment. But the point cannot always be determined even by this operation : for, in some instances, an uncertain eruption has been produced, or the operation has failed, and the specific disease has remained undecided.

Full advantage has been taken by many of the enemies of Vaccination, of every ambiguous

eruption which broke out on any person who had previously been vaccinated: and the distemper is usually pronounced by them to be either the Small Pox or a humour excited by the Vaccine. It happened to me one morning to hear of a failure of Vaccination, and that the sufferer was lying dangerously ill of the Small Pox. I met the attending apothecary at the house, where we found the patient, a little boy, playing about in a room with a slight papular eruption, which was desiccating on the fourth day. I asked the mother whether any child in the neighbourhood had lately been affected with the Chicken Pox. But before she could reply, the apothecary sternly demanded, “ if I was “ one of those who believed that the Vaccine “ could prevent the Small Pox?” I quietly owned that I hoped so: on which he vociferated, “ that the Vaccine was the vilest imposition “ ever introduced into physic; and he would “ give his vote for all the inventors of it being “ hanged.” Who these criminals were, and how many he proposed executing, were questions that could not prudently be put to this irascible gentleman.

Persons of this class are apt to lament, with overstrained concern, the number of failures of Vaccination, which are chiefly created by their practising variolous inoculation. Besides, the more they are, the more are the motives for sup-

pressing that deleterious operation : for, as long as it is tolerated by the laws, there will probably be knaves to perform, and fools to submit to it: by which the atmosphere will be retained in a state of pollution, and an infectious disease perpetuated, that all are naturally susceptible of contracting once, some oftener, and also a few after Vaccination.

CHAP. V.

OF VARICELLA, OR THE CHICKEN POX.

THE Small Pox and the Chicken Pox are two distinct specific diseases, which have no influence over each other, yet their similitude is such that they are frequently confounded. Dr. Willan * declares, that in six years he saw seventy-four cases of Chicken Pox, which had been mistaken for Small Pox occurring after Vaccination. The frequent controversies upon this subject, and the declension of Small Pox, have brought the Chicken Pox now into conspicuous notice, which formerly had been slightly considered.

It cannot be precisely ascertained in what age Varicella first arose : but there are expressions in the early Arabian authors which seem to allude to it; and, as it was their usual doctrine, that the Small Pox sometimes attacked individuals repeatedly, this is a strong presumption that Varicella was included.

* On Vaccine Inoculation, by Robert Willan, M. D. F. A. S. &c. 1806. p. 84.

Rhasis, for example, mentions, “ a slight “ Small Pox *,” and observes, “ that it was possible for the Small Pox to occur twice or “ thrice †.”

After this disease crossed the Mediterranean, the European physicians maintained the same opinions.

John of Gaddesdon ‡ divided the Small Pox into proper and improper: by the latter he probably meant Varicella. But in the ages of servile imitation, little improvement was made by a long succession of authors.

At length, in the sixteenth century, when the Italians were venturing to think a little for themselves, Varicella was beginning to be discriminated, and had acquired a vernacular appellation; for Vidius, a Florentine physician, very clearly distinguished the Chicken Pox from the Small Pox §: he describes the vesicles as

* “ Levis Variola.” Rhasis de Variola. Rich. Mead, M. D.

† “ Et possibile est quod Variolæ accident bis, vel ter.” Contin. Rhasis, lib. xviii. cap. 8.

‡ Rosa Anglica, Johan. Anglic.

§ “ Sunt qui præter duas species (Variolas et Morbillos) “ quas commemoravimus, crystallos adjiciunt, sic enim ap-
“ pellant quasdam veluti vesiculas plenas aquæ instar crys-
“ talli splendentes, quibus cutis variis locis distinguitur, has
“ nunc vulgo nominant Ravaglione.” Vide Vidii Florent, Oper. tom. ii. De Curat. Generat. lib. vi. c. 6,

having a crystalline appearance, and notices that the malady was named by the vulgar, *Ravaglione*.

Ingrassias, a Sicilian physician, who flourished nearly at the same period, stated, that, besides the Small Pox and Measles, there was an eruption called in that country *Rossanium*, or *Rossalia*, and another called *Crystalli* *. The first of these was probably the Scarlet Fever, and the second the Chicken Pox. At least, it is probable that the latter was not any species of Small Pox. For, he observes, that he has found by experience, when only a few Small Pox pustules have broken out, that this distemper is apt, though rarely, to recur a second time, and even, in some instances, a third time.

The learned, not aware that the eruption was specifically different, and scorning to adopt the names of the vulgar, invented a variety of their own ; such as the spurious, the dwarf, the volatile, the lymphatic, and the crystalline Small Pox, all which have been exploded in succession.

* “ *Præter quas ambas species (Variolas et Morbillos)*
 “ *et alias duas passim advenire conspeximus. Quarum alte-*
 “ *ram nostri Rossanium, sive Rossaliam vocant, alteram vero*
 “ *Crystallos. Utramque harum vul-*
 “ *gares, et ejusdem generationis cum Variolis et Morbillis ex-*
 “ *istimant.*” *Joan. Phil. Ingrassie Sicul. de Tumoribus præter*
Naturam, tom. i. tract. i. cap. 1.

Sidobre, who practised at Paris in the seventeenth century, endeavoured to reconcile the contradictory opinions of different physicians, by stating, “ it is certain that the Italians, Spaniards, Portuguese, and inhabitants of the south of France, had, for the most part, the Small Pox only once in their lives ; but that the northern people, such as the Swedes, Danes, English, and even the Parisians, were often attacked with the Small Pox three or four times *.”

The medical works of Riverius, of the same age, show, that the knowledge of Varicella was advancing. He remarks that, independent of Small Pox and Measles, “ there is a third species of eruption common among boys, the pustules of which are similar both in size and figure to Small Pox. They may, however, be distinguished by Small Pox pustules breaking out with redness and inflammation ; whereas the others are white, like vesicles, and are filled with a serous liquid. These break in three days, then desiccate : they are usually without danger,

* “ Postremo certum est Italos, Hispanos, Lusitanos, ipsosque Occitanos semel tantum in vita Variolis ut plurimum laborare : Septentrionales vero populos Suecos, Danos, Anglos, imo et Parisinos, bis, ter, quaterve sæpe infestare.” Antonio Sidobre, Tract. de Variolis et Morbillis. 1699.

“ and, for the most part, are ushered in without
 “ fever. French women usually call this erup-
 “ tion *La Verolette*, and the Italians *Rava-*
 “ *glione* *.”

Sydenham, though no great reader, was too keen an observer to pass entirely over this complaint. He noticed it “ as an adulterine
 “ species, which neither belonged to the genuine
 “ Small Pox, nor prevented it †.”

Richard Morton rather retrograded in the knowledge of this malady ; for he treats it as a mild species of Small Pox ‡.

He remarks however, that in the English idiom it was called the Chicken Pox ; which is the earliest authority I have found for this name. There are, besides, other appellations which have been given to this disorder by the vulgar in Eng-

* “ *Est et tertium pustularum genus pueris familiare,*
 “ *Variolis simile, quoad magnitudinem et figuram : sed in eo*
 “ *ab iis distinguitur, quod Variolæ cum rubore et inflamma-*
 “ *tione appareant : hæ vero albæ sint, et veluti vesiculæ*
 “ *seroso humore repletæ, quæ inter triduum disrumpuntur,*
 “ *et exsiccantur, nullumque afferre solent periculum, et*
 “ *plerumque sine febre erumpunt. Id pustularum genus à*
 “ *nostratibus feminis la Verolette nominari solet ; ab Italis*
 “ *Ravaglione.*” *Riverii Oper. Lugd. p. 461.*

† Thom. Sydenham. cap. ii.

‡ “ *Variolæ benignæ (nostro idiomate Chicken Pox).*”
Altera Pars : sive Exercit. de Febr. Inflam. Univ. Richard Morton.

land : as, the bastard Small Pox ; and in Cumberland, the Waterjaggs * !

The Scots adopted the name Chicken Pox ; but having observed, that some few persons, after having had both what was designated Small Pox and Chicken Pox, were yet subsequently attacked with other pustular eruptions, they invented for these disorders the names Swine Pox and Hives.

The Germans have invented more names even than the Scots ; for they have the Schaffsblattern or Sheep Pox, the Steen Pokken, Water Pokken, and Wind Pokken †.

Notwithstanding this variety of names, there are probably only two specific maladies, the Chicken Pox and Small Pox. And the occasional recurrence of both is the most probable explanation of many singular cases related by authors of the highest respectability. Diemerbroek, for example, observed some cases where the Small Pox had recurred thrice to the same individuals, in the short space of ten months ‡. Burserius likewise asserts §, that not a few per-

* Medical and Physical Journal, vol. xiii. p. 58.

† Vide Dan. Sennert, tom. i. Van Swieten, Comment. tom. v.

‡ Diemerbroek, tom. ii.

§ “ Nam certissimis ex factis observationibusque medicorum probatæ fidei, et summæ auctoritatis, cognitum est
“ non paucos, qui tam spontaneas, et naturales aut insititias

sons have suffered the Small Pox a second and a third time. Borellus relates the case of a woman who had the Small Pox seven times, and died of the last attack.†. It is natural to conclude, that some of the attacks in these cases were Varicella.

At length, in the year 1767, Heberden‡ drew up a brief account of the Chicken Pox, describing it as a specific infectious disease quite distinct from the Small Pox; which may be considered as the basis of our knowledge on this malady. Dr. Willan|| enlarged and improved upon Heberden's description: but it will probably require the talents of many to finish it. For, until lately, the Chicken Pox was passed over as an indisposition so slight as hardly to require a physician's attention. Thence the older writers never honoured it with a separate section: and Heberden, who

“artificialesque, et quidem veras et legitimas pertulissent
“secundo et tertio in easdem incidisse.” *Instit. Medicin.*
J. B. Burserii, vol. ii.

† “Vidi etiam qui bis et ter imo in senectute ea (Variolæ)
“cruciati fuere; sed nil adeo circa hæc notandum occurrit,
“ac mulier quædam Bonnoniensis Gallæ quæ septies eas
“passa est, et anno centesimo et decimo octavo tandem
“eodem morbo periit.” *Pet. Borelli Medic. Historiæ et*
Observ. Cent. iv. Cent. iii. Observ. x.

‡ *Medical Trans. College of Physic. London, vol. i.*

|| *On Vaccine Inoculation, by Robert Willan, M. D.*
F. A. S. &c. &c. London, 1806, p. 86.

first treated it with this degree of respect, imagined, that the pustules in this disease were limited to about two hundred. But it is now ascertained that this distemper, like all others, assails various persons, under different circumstances, with various degrees of violence; and cannot be circumscribed within very narrow bounds. The extensive experience of Willan had brought to his view cases, where the vesicles were so numerous as to be close together; though he adds, “seldom confluent*.” And Mr. Ring has related a case†, and illustrated it with a coloured print, of confluent Varicella.

There is, besides, always floating in great cities, especially in the capital, a number of new medical observations, which have not found their way into books. These circulate among the profession, until they are either confirmed or rejected by experience: but while under this trial, prudent writers are cautious of admitting these unsanctioned novelties into their works. This is instanced in the present rising knowledge of Varicella. Several old physicians have assured me of their having seen a few cases of Chicken Pox quite different from any written account. The fever which arose was of the

* On Vaccine Inoculation, by Robert Willan, M. D. p. 93.

† Medical and Physical Journal, 1805, vol. xiv. p. 141.

most alarming kind ; and the subsequent eruption excessive, and undistinguishable from the Small Pox. These cases had however been ascertained to be Chicken Pox by finding out the character of the infection which was the cause, by the effect it produced on others, and by the sufferers having previously had the Small Pox.

I had an opportunity of seeing a case of this kind, in which the fever was highly inflammatory*. The pustules at the sixth day were large and purulent. On the face they were so crowded, that several clusters were confluent ; and the body and limbs were thickly studded. On inspection, several physicians pronounced the disease to be the Small Pox ; yet a number of circumstances clearly proved to the satisfaction of others, that it was Varicella. The patient was a school-boy, and seven of his school-fellows, who lived under the same roof and sported in the same play-ground, were all attacked with the same symptoms of fever in the course of two days. Three of those boys had previously had the Small Pox ; the five others had been vaccinated, and none of them had before had the Chicken Pox. In seven this malady proved to be Varicella in its usual mild

* Reported to the National Vaccine Establishment in the year 1815.

form: and consequently it must be concluded that the specific infection was the same in the eighth, although he was affected with so much greater severity.

The justness of this inference was corroborated by letters from the parents of some remaining boys in the same school, who were not infected, mentioning that they had already gone through the Chicken Pox.

Events like this evince, that Varicella is still imperfectly discriminated from the Small Pox.

It is obvious that no mistake can be made, when this latter disease assails with all its terrors. For the skin is then affected with erythematous inflammation and a confluent eruption; the features become swollen, the eyes closed, and the face resembles a hideous mask; while there exhales from the person an odour, like that of a putrid carcass. This terrible disease, instead of declining towards the tenth or eleventh day, augments; the symptoms rise higher than before; and when the patient survives, his danger is hardly over at the end of three weeks.

All medical men would at once recognise such a distemper as the above, nor could they err in Varicella, when, after a moderate headach, feverishness, and listlessness, a few crystalline vesicles arise, which on the third day break, become shrivelled, and crust. But the difficulty

is, to distinguish the Small Pox of a milder and mitigated form, from the most violent species of Varicella; and this sometimes demands the nicest observation.

The symptoms and duration of the previous fever in both maladies are nearly the same. And although the fever of the Small Pox is generally incomparably more violent, than that of the Chicken Pox; yet when the Small Pox is mild, and the Chicken Pox severe, the reverse is the case: for vomitings and delirium occasionally occur in Varicella, and the eruption is sometimes ushered in with convulsions.

Heberden, in enumerating the symptoms of Varicella, mentions a cough, as sometimes attending it. Willan corroborates this, and adds to the cough the epithet severe*.

This is a symptom no way belonging to Small Pox; it seems to indicate, that the bronchiæ are apt to be affected in the Chicken Pox, and may therefore be considered as an occasional discriminating symptom. A salivation and bloody urine occur not very unfrequently in Small Pox; but these symptoms have never yet been mentioned as taking place in Varicella.

The fever of Small Pox, when the disease is

* Vaccine Inoculation, by Robert Willan, M. D. &c. p. 86.

distinct and moderate, abates, and often ceases on the first or second day of the eruption. But as in the severer cases of Varicella, the eruption is thrown out in successive crops for two or three days, the fever does not remit in these instances so early by one or two days at least.

When the pustules of the Small Pox are numerous, especially on the face, the fever generally recurs at the height of the eruption: but in Varicella, after the fever has remitted, it rarely, if ever, returns.

Dr. Heberden certainly described well the ordinary appearance of the Chicken Pox pimples: but Dr. Willan inspected the various kinds with a magnifying lens, and divided them into lenticular, conoidal, and globate, which he conceived formed three varieties of Varicella. As, however, vesicles of all these shapes, and even of others, are sometimes seen in the same patient, they probably proceed from no difference in the infection; but from accidental varieties in the state of the skin, and in the degrees of inflammation.

Both the above authors, in describing the progress of Varicella, have detailed some circumstances in which this eruption differs from, and some in which it resembles, the Small Pox; but have given no principles explanatory of them: which, if it can be done, will greatly facilitate the discrimination.

Each regular, distinct, Small Pox pustule is a small, but true, phlegmon, and attended with all the usual effects of the suppurative inflammation.

The eruption generally commences on the face and body, and extends on the following day to the extremities.

It begins by minute red points, each of which is a spot of inflammation that breaks out on the surface, and descends a little into the substance of the cutis : by the enlargement of the blood-vessels, and by the effusion of coagulable lymph, a small round tubercle, hard to the touch, and painful when pressed, is formed. As the inflammatory action proceeds rapidly, each pimple augments, and is surrounded with a crimson circle ; when sometimes on the second, but oftener on the third day, there may be seen on the centre a little semi-pellucid point, and the rest is red and tumid. The vesicular appearance of the pimples is occasionally of a limpid, and at other times of a pearl colour ; it extends gradually in breadth, and on the fourth day it occupies the whole front of the tubercle, the centre of which is depressed. This concavity is produced by an adhesion of the cuticular membranes to the inflamed cutis, in consequence of the effusion of coagulable lymph ; which also forms a cyst to confine the matter, and thickens the rete mucosum and cuticle. The depression

is not observable on all the pustules, especially on the smaller ones.

The liquid of the eruption is gradually changed from a serous to a purulent secretion: on the face and body, where the inflammation is most vivid, it generally is converted into common pus; but on the extremities, where the inflammation is less active, the contents of the eruption continue often rather serous.

About the fifth or sixth day, the pustules rise to a hemispherical shape; each of which is commonly surrounded with a red circle; and, when there are many, the intervening skin often acquires a damask tint. And as this is accompanied with the interstitial effusion common to phlegmonous inflammation, some general swelling takes place; which is conspicuous on the face, by enlarging the features and shutting the eyes.

On the eighth day of the eruption the pustules are at the height, and some matter frequently oozes out from many of these little abscesses. A dark spot then appears on the top of each, and the pustules in two or three days more are converted into brown scabs. The interstitial swelling subsides from the period the eruption has acquired its acme.

As the pustules on the extremities are frequently one day later in appearing, they are

likewise a day, at least, later in desiccating ; sometimes, indeed, several days : for, their contents being more limpid, they do not quickly coagulate. Occasionally it happens, that the fluid is entirely absorbed, and, instead of a crust, an empty cyst remains.

There is another variety, when the pustules are very small, and the inflammation declines early, the matter coagulates, and forms what has been termed the horn or warty Small Pox.

The eruption of the Chicken Pox commences also with little red spots of inflammation of the phlegmonous kind ; yet, in its ordinary form, it proceeds in a manner essentially different from that of the Small Pox.

It usually first breaks out on the body and face, and then spreads to the extremities. And there is frequently a succession of fresh crops of vesicles, for two or three days ; which are often mingled on the same parts of the body, and all of which go through the same stages, and lengthen the duration of the malady.

The inflammation which seizes the superficies of the cutis, is neither so intense, nor does it penetrate so deeply, as in the Small Pox ; and consequently each little tubercle is smaller, flatter, and less painful, than in the Small Pox : but a more remarkable distinction is, that, even on the first day, a minute vesicle may usually be

seen. For, in Varicella commonly it is merely the surface of the cutis which inflames; and little or no coagulable lymph is effused to thicken the cuticular membranes; and a serous secretion, the product of cutaneous inflammation, is poured out under the rete mucosum, almost with the rapidity of a blister. Little vesicles are therefore quickly formed, more pellucid than in Small Pox, and surrounded with inflamed borders, of various breadths. On the second day the vesicles are larger, but neither concave, clouded, nor hedged around with coagulable lymph. But as they fill, the liquid separates the rete mucosum and cuticle from the cutis; and as one side sometimes yields more easily than another, the vesicles occasionally become oval, or lenticular, or in some degree irregular. Often, however, they retain a regular round figure, but not so constantly as in the Small Pox.

On the third or fourth day, the cuticular coverings of the vesicles, not being strengthened with coagulable lymph, are apt to break of themselves, or from accidental friction. When broken, the vesicles appear somewhat shrivelled, and little dry scabs form; but others enlarge and suppurate. The colour of the liquid contained in the vesicles is various; depending upon the degree of inflammation. It is usually at first clear, and afterwards whey-coloured, or

milky : at other times it becomes yellow, purulent matter.

The vesicles of the Chicken Pox at the third and fourth day are nearly of the same size as those of Small Pox at the same period ; but, in common cases, instead of enlarging more, they then decline. As the Chicken Pox frequently breaks out in two or three days in successive crops, which are mingled together, and all of which go through the same progress ; when the eruption is examined on the fifth and sixth day, its appearance is variegated by vesicles in various stages ; some very little elevated, others filled with a serous, a white, or a yellow liquid ; and many are broken, shrivelled, crusted, and vanishing.

In the Small Pox, at the same period, the eruption is much more uniform ; though the pustules on the face, and sometimes those on the body, are a day forwarder than those on the extremities. The interstitial swelling, being proportioned to the violence and duration of the inflammation, and to the quantity of the eruption, is, therefore, in general much less in Variocella, than in the Small Pox.

These distinctions are sufficiently clear in well-marked examples of Small Pox and Chicken Pox. But the former malady is sometimes peculiarly mild, and the latter extraordinarily violent, which obscure all the discriminating marks.

For, when the Small Pox is mild, and when the eruption consists only of a few scattered pimples, the inflammation is slight, and the pustules appear to be arrested in their course, and quickly to decline, or desiccate.

And besides this mild species of Small Pox, a new kind has lately been observed in persons who had previously undergone Vaccination. In most cases of this eruption, there were reasons for suspecting that the vaccine process had not been so complete as to have saturated the constitutions of the patients with the preventive. Yet the Vaccination, such as it was, though not adequate to the entire prevention of the action of the variolous infection, was sufficient to weaken its malignity.

I have seen a number of these cases, which occasioned a superabundant alarm to parents, and considerable astonishment to the medical profession. The malady neither proceeded according to the regular course of Small Pox, nor of Chicken Pox; but appeared like a new and intermediate eruption.

This mitigated disorder commences like the distinct Small Pox, but usually with a more moderate fever. The eruption is less vividly inflamed, and the vesicles assume often a crystalline appearance; yet still they retain a portion of the variolous character, as some acquire the central depression, and their coats are too

strong to break and shrivel upon the third or fourth day.

When the eruption proceeds to the fifth and sixth day, the pustules sometimes rise to the hemispherical shape, and are then hardly distinguishable from the common Small Pox. Their contents are, however, usually thinner, as if the pus was mixed with serum. The interstitial effusion is also inconsiderable; and, therefore, even when the eruption on the face is numerous, very little swelling occurs, and the eyes are not closed up.

But the most striking peculiarity of this variolous affection is, the shortness of its duration. In most instances the pustules begin to desiccate on the third or fourth day; in some, however, not till the fifth or sixth: and there have been a few very rare instances, where the eruption was confluent, in which it did not reach the acme until the eighth. But even in these cases no secondary fever ensued, and all the symptoms and vestiges of disease vanished with remarkable rapidity, leaving few or no pits.

As, however, there are exceptions to every law, two authentic cases have been reported to the National Vaccine Establishment, in which the Small Pox, subsequent to Vaccination, absolutely proved fatal.

But we may rather wonder, in the beginning of Vaccination, at the infrequency of such

calamities, than be astonished at these two unfortunate events; for, the Small Pox is sometimes of a malignity, which nothing can withstand; as the second attack of this pestilential infection has on some occasions been mortal.

No example has been recorded of Varicella actually destroying life; but when it puts forth all its fury, the usual appearance is as much changed, as the mild and mitigated Small Pox are apt to be, when in their gentlest mood.

When Varicella is violent, the inflammation is active, the vesicles run into suppuration, they are enlarged and protracted; and consequently their discriminating marks are confounded.

Yet if the disease is seen from its commencement, a minute observer may, in almost every instance, detect some of the peculiar signs.

One of these is the disposition to break out in a number of successive crops, which are mingled with each other, and advance in some degree independently. And although the increased inflammation is accompanied with some effusion of coagulable lymph, which disguises the common appearance of the Chicken Pox; yet, if the eruption is accurately inspected, it will probably be found, that some of the vesicles form earlier, and have a more pellucid colour, and a less regular shape, than the variolous eruption. Should the eruption proceed to the fifth and sixth day, and should many of the pustules

then assume the form of Small Pox ; still there may probably be observed a variegated appearance proceeding from the successive crops : one portion of the eruption being only in the vesicular, another in the pustular stage, and a third crusting ; and all this variety in the same parts of the body.

If a case of Varicella should arise, in which none of those peculiarities could be perceived ; and in which the eruption, from its commencement until its termination, was undistinguishable from Small Pox, some light might be obtained by attending to the constitutional symptoms. The most remarkable of these is a cough, which has nothing to do with Small Pox ; and when the Chicken Pox is severe on the eruption taking place, there is little or no remission of the fever ; which continues, during the successive crops of eruption, for two or three days.

In doubtful cases, an important point is to discover, if possible, the nature of the disease, in those who communicated the infection ; or in those to whom it may have spread. Even inoculation is sometimes had recourse to : but as this is an experiment which may be attended with fatal consequences, it is unjustifiable ; especially as the motive for incurring this risk is curiosity, rather than utility.

It is also well known, that there is in every art "(and surgery is not excepted), a skill ac-

quired by practice of discriminating shades of appearances too fine to be described by words. But if it should be peremptorily demanded, may not an eruption occur, the specific nature of which can neither be positively ascertained by any of the signs which have been detailed; nor by the most experienced observer? the possibility of this must be admitted; for there are deceptive cases in Varicella, in Small Pox, and in every other disease, which baffle all human judgment.

There are, however, medical gentlemen whom no difficulties appal, and who know that confident decision passes on the world for knowledge; although doubt is usually more appropriate to the present state of physic.

A few years ago my opinion was asked rather late upon an equivocal eruption, which a little boy had contracted in the neighbourhood of London. The attending apothecary had taken unusual pains to ascertain the disease; but neither he nor I were quite clear upon the point.

The parents being anxious, another surgeon of considerable notoriety was sent for. He arrived; and, being in haste, requested to see the patient without delay. He was immediately ushered into the sick chamber, and went up to the bed; he looked for a moment at the boy's face, and at one arm, which was uncovered; then, without putting a question, or hearing a syllable,

he gravely pronounced, that "the disease was
"undoubtedly the Small Pox."

The mother of the boy, the nurse, and nursery-maid, were all struck with his instantaneous discernment, and despised the apothecary and myself, as very inferior beings.

CHAP. VI.

THE RECEPTION OF THE VACCINE WITH THE
PUBLIC IN ENGLAND.

NOTWITHSTANDING the decisive proofs of the reasonableness of substituting Vaccination for variolous inoculation, which have been set forth in the preceding chapters, universal approbation was not to be expected. Discrepancy of opinion attends all innovations, both those that are meliorations and deteriorations; nor can this be prevented by any accumulation of arguments. There are two contending principles, which have more influence with the bulk of mankind than reason: the one is an attachment to ancient customs; and the other is a love of novelty. Both these have great sway with different persons, under various circumstances; and are in direct hostility with each other. The first is the more general sentiment: its operation is more constant; and it prevails especially with the uncultivated and aged, exciting an aversion to all changes: whereas, the love of novelty is a more transient passion, which springs up occasionally, and chiefly agitates juvenile minds, and those of the higher ranks. But the judicious are guided by more rational

motives, and neither follow unthinkingly the invariable track of inveterate habit, nor pursue inconsiderately the glittering bubbles blown up by every fantastic projector. Though this class of human beings is few in number, their superiority of intellect gives them a great ascendancy over the public. If united, their decisions could never be long resisted; but it is often the interest of those who guide, to deceive; and some are apt to yield to this temptation. A violent collision of these opposing causes, and a variety of effects, were produced by the discovery of Vaccination. The sanguine and volatile, transported at the first report, scoffed at, or praised it; spurned it back, or pushed it forward, without examination; while the phlegmatic and unteachable, either preserved a sluggish inertness, or continued in their wonted track.

But the more judicious and instructed portion of the community began by an inquiry into the subject: and, after they were convinced by sufficient proofs of the utility of Vaccination, they adopted it in their own families, and recommended it to others with the authority that belongs to learning and wisdom. This especially was the conduct of the most eminent of the medical profession, and a large majority of the remainder followed their example; which was done under the impression, that to expunge from the list of diseases one which uniformly

afflicted every individual once, must decrease their income.

Unfortunately, there were a few, and most of them needy practitioners, who would not acquiesce in this sacrifice; and, besides, they perceived, that, should all the distinguished professional gentlemen decline variolous inoculation, whatever remained of this branch of business would devolve upon them; and by this means they might emerge from obscurity, and acquire practice. Excited by these tempting motives, a tribe of medical men soon declared themselves enemies of Vaccination, and admirers of variolous inoculation. Ignorance might have misled them at first; but those who persevered after multiplied proofs, could plead no such excuse; neither did they. On the contrary, they boasted of their hatred to the Vaccine, of their love of Small Pox inoculation, and of their uniform success in this practice.

These emphatic declarations, from their singularity, attracted notice, and were soon productive of pecuniary advantages. Whatever human feeling might before have lurked in the breasts of the anti-vaccinists, was then extinguished; and they disseminated without remorse the infection of Small Pox through the thickest population. These men were instantly shunned with aversion by their former associates: they

were necessarily compelled to view scenes of a deplorable disease and death, of which they were the authors ; and to hear bitter imprecations from the parents of dying infants. But all, for slight gains, was endured, and braved with effrontery.

It is remarkable that the opposition to Vaccination was much more violent in England, where it was discovered, than in other countries : yet no one can suspect that this proceeded, either from the inferior knowledge, or superior rapacity, of Englishmen. It was certainly occasioned by the political freedom of Great Britain permitting empiricism, and many species of impostures, to flourish ; which are either restrained or suppressed by the more rigid laws of other states. The facility of controlling evils, and of punishing knaves, in arbitrary governments, is some compensation for the loss of the blessings of liberty.

It was principally in London, where freedom is often alloyed with licentiousness, that the greater number of anti-vaccinists resided ; for, the immense size of the capital renders it the most convenient resort for those who acquire their livelihood by injuring their neighbours. It gives ample scope for fraudulent practices ; which, even when detected, cannot be made known to the whole of so vast a population. Great exertions were, however, made to en-

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lighten the public by the friends of Vaccination. The objections of its detractors were refuted, their misrepresentations exposed, and their conduct derided. All who listened to the proofs, and were capable of comprehending them, were soon convinced of the utility of the new practice ; but the difficulty was with others, a large proportion of whom could not read. It might have been hoped that this deficiency would have prevented their being tainted by the wretched sophistry abounding in the ephemeral pamphlets of Rowley, Birch, Moseley, Squirrel, and others. Yet multitudes of the illiterate became their proselytes ; being converted by the innumerable reported cases of vaccine failures, and of the horrid effects of the bestial Cow Pox humour, which were repeated from mouth to mouth. These tales were listened to with greedy ears, and oft corroborated by the parents of scrofulous and herpetic children ; who were consoled by the belief of an extrinsic cause for these disorders. But there remained a large mass of the people who were too insensate to be actuated by either party. They could neither be moved to have their children vaccinated nor variolated ; but continued obstinately passive, or maintained, with pious stupidity, that they would trust to Providence. Some of the children, thus resigned to the fury of the Small Pox, were deprived of sight ; others were disfigured, and many perished. Yet the parents were seldom so much melted, as to treat

their future offspring with greater tenderness: their tears were soon dried up, or too few were shed, to wash out their pitiless dogma. But, in spite of the indocility of the illiterate, and the apathy of those who renounce the guidance of reason, Vaccination was so zealously patronized by the enlightened and benevolent, that it spread over the world with astonishing rapidity. In one year it was diffused through Europe, and, in less than three, reached India and China.

In many parts of the British dominions, Vaccination was certainly cherished with heartfelt kindness; and as the Government, from caution, did not for some time interfere, the encouragement bestowed was entirely voluntary. But it was formerly shown, that at the very outset, when the disinterested were beginning to promote the generous plan of Jenner, Woodville and George Pearson, under the mask of friendship, attempted to purloin shares of the credit. In their haste, however, they had confounded variolous pus with vaccine lymph, spread abroad the former with the title of the latter, described their effects as nearly the same, and brought the Vaccine into temporary disrepute. Jenner, notwithstanding, soon restored its pristine lustre. The pilfered plumes were plucked from the invaders; and nothing was left them but their own artificial feathers. By this exposure, it was

proved that two sources of vaccine virus were sometimes impure, and Jenner was overwhelmed with applications for the genuine fluid. His innumerable foreign and domestic correspondents, by flattering eulogies and unceasing requests, engrossed his whole time; and by packets of grateful thanks, transmitted by return of post, nearly ruined him. But, disregarding all inferior considerations, he felt pleasure alone from the multiplying proofs of the success of his plan, and his labour was gradually alleviated by the exertions of his medical friends.

In addition to the efforts of private individuals, Vaccination in the year 1799 acquired the powerful support of the Commander in Chief.

The Small Pox was a disease which had continually infested the army: for, as recruits are usually the sons of the poor, and are chiefly raised in remote counties, they were rarely inoculated; and in changing their quarters, according to the exigences of the service, they were much exposed to the risk of this infection. When it appeared in a regiment, it usually spread; and, owing to the irregular lives of soldiers, often with peculiar malignity. This being well known to the Duke of York, ever solicitous for the safety and comfort of the troops, His Royal Highness took the proper steps to ascertain, if the Vaccine was in truth a preventive of the Small Pox.

As soon as the Army Medical Board, and other competent judges, had given full assurances and complete proofs that this was the case, a general order was issued to all regimental surgeons to vaccinate every soldier who had not had the Small Pox. By this measure the malady was at once extinguished in the army, and many a gallant soldier preserved.

At this period the army was upon a high establishment; the militia were embodied, and the Medical Staff were numerous. It then became the duty of all military surgeons to learn and to practise Vaccination: and as they were presently convinced of its utility, they recommended it for the children of the soldiers, and of others. Thus every regiment became a centre whence the Vaccine radiated to the people; and the benevolent mandate of the Commander in Chief diffused the Vaccine through every part of the British dominions.

After a short time the Lords of the Admiralty imitated this excellent example. But owing to ships of war being frequently at sea, and seamen being characteristically thoughtless of futurity, and less tractable than soldiers, the Vaccine advanced much slower in the navy. The naval surgeons, however, employed it when in their power, and were as much struck as those in the military service with the advantages

of this discovery; nor has a dissentient voice been heard among either.

The difficulty in finding a ready supply of lymph was, for a long time, a considerable obstacle to the diffusion of the Vaccine. This was partially obviated by some professional gentlemen who undertook to vaccinate gratuitously all who should apply to them. Among these Mr. Ring* was distinguished for his zeal and activity. He vaccinated vast numbers of the poor, and distributed to the friends and enemies of the Vaccine both lymph and sarcasms with equal liberality. It was upon his house in London, that the profession at large chiefly drew for the valuable preventive; and he answered their demands to any amount without interest.

While the practice of Vaccination was increasing and gaining proselytes among all descriptions of persons, the clamour against it became louder and louder, and disturbed the confidence of the public. As very few persons not belonging to the profession, chose to read the arguments on both sides of the question, it was important to make known, who were the approvers and disapprovers of this new practice; that, by comparing the numbers and respectability of each party, some judgment might be formed which side preponderated. For this

* Author of A Treatise on the Cow Pox, and other Works,

purpose, in July 1800, a Declaration was framed, expressing a complete approval of Vaccination, and strongly recommending it in preference to variolous inoculation. This public instrument was signed in a few weeks by almost every medical gentleman of any consideration in London; and its promulgation had a powerful effect. Numberless declarations of a similar tendency were signed and promulgated by the profession in most of the principal cities of England and Scotland; and the nobility and gentry recognised among the signatures the names of all those medical men whom they knew, or whom they had ever heard quoted as eminent for skill or science. These authorities had so much influence, that from this time the children of persons of condition, with a very few exceptions, were all vaccinated.

In places distant from the capital, especially in the British settlements, the influence of the declarations was still greater than at home. For the medical men perceived, that all the professors and masters in the schools of medicine, all whom they strove to emulate, or to whom, in the last emergency, they consigned their desperate cases, gave a decided preference to the new practice. This induced them to try, and success prevented their ever relinquishing it.

The medical declarations were mortifying

blows to the anti-vaccinists, who, from a consciousness of inferiority in all respects, dreaded the ridicule of exposing their names to a counter-declaration. The few with pretensions to character, shrunk from the disgrace of enrolling themselves with empirics, and the sweepings of drug-shops. Dr. Rowley, indeed, spoke of forming a club of his partisans; but from the manifest shame of openly associating with such company, this scheme was also abandoned. Nothing, however, could dissuade the party from persecuting Vaccination. They printed; they prated, and advertised; and the pamphlets they published, and the rumours they circulated, were not universally despised. Many parents were deluded; and multitudes of children variolated.

The female sex, from superior sensibility and fondness for infants, were wonderfully agitated by Jenner's discovery. Under this emotion to deliberate was difficult, to remain passive, impossible. They were decided by the firstlings of the head, and hurried to extremes. The imaginations of many were so much disturbed with tales of horror concerning the Vaccine, that they could not even listen to any proofs of their falsehood: but violently rejected an innocent preservative of their children from pity; and tenderly inflicted on them a dangerous infection from love.

Others of superior sense, or more fortunate in their first intelligence, were transported with the idea of preserving their children's lives, eyes, and beauty, from the dangers of the Small Pox; and became Jenner's ardent proselytes. They passionately extolled the charming invention, and pressed its adoption with sweet importunity. Some country ladies even ventured to make use of the lancet: and resolutely vaccinated every child, whose parents they could prevail on, by insinuation or entreaties, to confide in their skill. As the influence of these amiable practitioners among the peasantry was great, and the purity of their motives unsuspected, flocks of children were carried and intrusted to them, in preference to the village doctors. Apprehensions might naturally have been entertained of the prudence of this conduct: for, if the female surgeons should unwittingly have committed any important error, it might have cost their little patients their lives. But no such event has been bruited; on the contrary it appears, that, from timidity, they were watchful, strictly compliant with prescribed rules, and consequently successful. Whereas some medical men, from carelessness and self-sufficiency, were apt to deviate, and to fail.

While the Vaccine was thus piercing through counties and cities by various paths, it was

sometimes retarded by venal opposition, but oftener by vulgar prejudices. These obstructions were most remarkable in a few towns not distinguished for civilization.

Portsmouth, Portsea, and Gosport, form a triple city, which equals London in dissoluteness, without possessing any counterbalancing refinement.

Poets, who are the closest observers of human nature, have often celebrated the modesty of village maidens; but seldom that of the females of maritime towns. The failings of the latter are not attributable to the inconstancy, or to any wanton quality of the neighbouring element; but rather to the wandering lives of seafaring men. Long and frequent absences are severe trials of fidelity; in which some may stand, but others fall. Chastity, besides, was at that time peculiarly exposed in these busy towns, where the bravest and handsomest of the British youth, clad in warlike accoutrements, were often assembled, either preparing to rush on daring enterprises, or returning triumphantly from conquests. These shining warriors often dazzled those eyes which viewed them too curiously; and the dangers they had passed, often melted hearts endued with too much tenderness. In proportion as instances of weakness multiply, the disgrace lessens, and feminine timidity vanishes. These observations may pal-

liate the darting glances returned on passing gazers, by many Portsmouth damsels; "who rarely askance, like modest virgins look." Where such morals prevail, and amidst the dalliance and revels of a corrupt and riotous city, the Vaccine was much neglected, and the Small Pox allowed to continue its wonted ravages.

The regrets of mothers for the loss of promiscuously begotten children, cannot be appreciated. Some might console themselves by knowing, that their offspring, neither by education nor example, were likely to be preserved from the surrounding licentiousness.

Bristol, until lately the second city for population in the island, degraded itself also by a strenuous opposition to the Vaccine; which, perhaps, was owing to this ancient seat of an episcopal see having fostered commerce and manufactures in preference to literature. The Bristolians, who pursued wealth exclusively, have only attained what they sought; and they received very coldly a discovery founded on science and dear to humanity. For it must, though with reluctance, be confessed, that some of the medical practitioners of that town declared their disapprobation of the Vaccine, and their decided preference to variolous inoculation.

They did not, however, attempt, like the London heretics, to defend those opinions by

their pens, and to scatter their impious doctrines to distant parts : but industriously prosecuted in the true spirit of trade their private gains, and showed no desire to infect any persons with disease, except those who might become their patients.

This was the most prudent, and perhaps the most mischievous conduct ; as their arguments might have proved dissuasive. Indeed, Bristol was never a medical school, though frequently a resort for the sick : but the Hot Wells have declined lately, while the cooling springs of Cheltenham have proportionably risen into fashion. It is at this new autumnal abode of Hygeia, that wealthy invalids chiefly assemble ; and amongst the thick coverts and shady walks, there has been constructed every convenience which the purifying fountains require. Indeed the assemblage of the sick and fanciful is so numerous, and their thirst for the saline beverage so intense, that complaints are frequently made of a deficiency of water, but never of physicians. For a large and well-bred pack hunt there during the sickly season, who have a quick eye for oriental livers, and a keen scent for unctuous citizens.

As Dr. Jenner's residence at Berkeley is not remote from Cheltenham, he was occasionally sent for, and sometimes resided there temporarily ; and though entirely devoid of medical

policy, his ingenuity and simplicity of manners, acquired him pre-eminence.

Soon after his first publication on the Vaccine, he had gone to Cheltenham with his family; and immediately on his arrival, one of the surgeons waited upon him, who being an intimate friend, took his youngest child in his arms, which he began to caress, saying, "You of course have had the Vaccine?"—"Not yet," said Jenner; "for I have lost the lymph, from not finding a series of patients, and the Vaccine has flown at present from our dairies." The surgeon, on hearing this, instantly put the child from him, exclaiming "that he had just quitted a house, in which two persons lay at the height of the Small Pox; and as he had sat some time in their chambers, that his clothes and person must have imbibed the infectious vapour." These words threw both Dr. and Mrs. Jenner into a great alarm; and as no vaccine lymph could be procured any where, it was requisite to inoculate the child with the Small Pox, to lessen the danger it had been exposed to, by the imprudence of their friend.

Although Jenner's decision on this emergency was most judicious; yet his enemies perceived, that, by omitting some circumstances, the story might be turned to good account. The incident accordingly, when sufficiently mutilated, was whispered abroad with this commen-

tary : that Jenner, by secretly inoculating his own son with the Small Pox, showed clearly that he had no real confidence in the Vaccine, which he was endeavouring to impose upon the world. As calumny travels with celerity, and is commonly kindly greeted, this report was whirled with rapidity to London, and thence with the velocity of the winds transported even to the antipodes before Jenner knew a syllable about the matter. It was then very easy to clear up the transaction. But though the real fact has been printed in various periodical publications, and circulated industriously ; yet the original fabrication is often repeated still. For a lie is a weed, that when plucked up repeatedly, will spring again.

This story made a very transient impression at Cheltenham ; which is not, like London, of such magnitude, that facts occurring on the spot can be long disguised. Yet other fables were afterwards trumped up ; which being also detected, the Vaccine became popular there ; and the practice of Vaccination was diffused over the county of Gloucester.

The opposition in other places was less remarkable, and in many the new practice was early embraced with cordiality. This favourable reception was especially manifested in York, Manchester, Liverpool, Birmingham,

Leeds, Chester, in the two Universities Oxford and Cambridge, and even at Plymouth, though a seaport, owing to the exertions of Mr. Dunning, an eminent surgeon of that town. At Norwich, Newcastle, and Nottingham, Vaccination was so much practised, that the Small Pox soon became very rare ; and the decrease of that malady, wherever the new practice prevailed, was always evident.

CHAP. VII.

PARLIAMENTARY PROCEEDINGS.—A COMMITTEE OF THE HOUSE OF COMMONS APPOINTED TO INVESTIGATE DR. JENNER'S CLAIM TO THE DISCOVERY.

IN proportion as the benefits of Vaccination were extended, gratitude to the discoverer arose in the public mind; and the sentiment, that this incalculable benefit merited a most honourable remuneration, gradually prevailed. This became a topic of conversation, not only with the medical profession, but likewise with those who take an interest in scientific researches. It was perceived, that, if concealment had been practised, an immense fortune might have been accumulated. But although this line of conduct could never be pursued by a man like Jenner; still it was remarked, that the consumption of time, and the pecuniary sacrifices in attaining the ultimate object, had been great: and after the discovery had been unfolded, the opposition which sprung up and the errors which had been committed, had obliged him to leave his country residence, and to bring his family to London. In that turbulent scene he had been forced into controversies abhorrent to his disposition; and had

been compelled to defend both the Vaccine and his character from base calumnies. He had sustained, besides, a considerable and permanent decrease of income: for, on quitting Berkeley, where he had long resided as sole physician, two other physicians had established themselves there, and had gained the confidence of the neighbourhood. Therefore Jenner's benevolent exertions had hitherto tended to impoverish his family. From these facts it was obvious, that if the public could be so ungrateful as to neglect bestowing upon their benefactor a national reward, a full indemnification for all his losses could not be refused in rigid justice.

These considerations having suggested themselves to some political characters, not wholly engrossed in party contests, they resolved to lay the subject before Parliament.

It is in the House of Commons, (whose forms are regulated on principles of thrift, rather than of delicacy,) where grants of public money must originate. Jenner was proudly circumstanced: he had bestowed on his country and on the world so inestimable a gift, that nothing approaching its value could be returned. To him mankind must for ever remain insolvent. Yet to obtain even a compensation for the expenses which he had incurred, it was indispensable, that he should present to the House of Commons a petition, couched in prescribed humiliating

terms. Forms like these were invented during the servility of feudal times; and, though detested by men of spirit, are continued from devotion to ancient customs.

On the 17th of March 1802, Dr. Jenner's petition was presented to the House of Commons*. At this time Mr. Addington† was prime minister, who favoured the application with every official aid that was requisite. He communicated to the House, that he had taken His Majesty's pleasure upon the contents of the petition, who recommended it strongly to their consideration. The business was then referred to a Committee, of which Admiral Berkeley was appointed chairman‡.

The Committee acted with scrupulous impartiality, summoning before them both the persons who had the greatest experience in Vaccination, and also those who, by their writings and declarations, were known to be inimical to Dr. Jenner and to his discovery.

He himself§ was first called in; but, from

* Journals of the House of Commons, March 1802.

† Now Viscount Sidmouth.

‡ Report of the Committee on Dr. Jenner's Petition.

§ Report of the Committee on Dr. Jenner's Petition. And Evidence at large, as laid before the Committee, &c. By the Rev. G. C. Jenner, 1803. (Taken by a short-hand writer.) This publication is fuller than the Report, and therefore preferable as a reference, though they both accord in substance.

singular diffidence, was incapable, even with preparation, to give an oral testimony in public of what he thoroughly knew. He therefore delivered to the Committee a written statement, containing a succinct account of his investigations; which corresponds with the more copious narrative that has been given at the beginning of this volume. Dr. Ashe, an accomplished physician, possessed of many acquirements, and who had resided several years on the continent, was then examined. He declared that the Vaccine had been unknown abroad, until the publication of Dr. Jenner's works; but soon afterwards it had been conveyed to Germany, and propagated in most parts of Europe, where public opinion was highly in favour of it. As he considered the discovery to be of the utmost importance, he had paid great attention to it: he had seen many persons vaccinated, among whom were three of his own children; and his opinion was, that the Vaccine was an effectual and permanent security against the Small Pox. He was also convinced, that the Vaccine did not excite a disposition to any other disease.

The Committee proceeded to examine above thirty physicians and surgeons of eminence or respectability, all of whom had applied themselves attentively to this subject. A few noblemen and gentlemen acquainted with particular facts also gave their testimony; and the results

of the whole were these : that according to the researches and calculations of several learned physicians, the Small Pox destroyed annually in Great Britain and Ireland between 34 and 36,000 persons : that the practice of variolous inoculation, instead of diminishing, had augmented the mortality by this disease, which consumed about one tenth of the population : that the Vaccine, after extensive experience, had proved to be an efficacious preventive of this fatal malady ; and was not only innocent in its own nature, but, as the Small Pox is frequently followed by scrofulous affections, and other disorders accompanied with debility, the Vaccine, by preventing the Small Pox, was also a preservative from those consequent evils : that, on the whole, Vaccination was considered to be the greatest discovery ever made in medicine, and Dr. Jenner the sole discoverer.

In corroboration of the period in which he had commenced his investigations, Mr. Gardiner, one of his friends, was called in, who declared that* in the spring of the year 1780, Dr. Jenner had informed him of the peculiar nature of the Cow Pox, and of his theory on the subject ; adding his full and perfect confidence, that it might be continued in perpetuity by inoculation from one human being to another.

Mr. Home (since Sir Everard Home) stated,

* Evidence at large, &c. p. 135.

that in the year 1788 Dr. Jenner had presented to his brother-in-law, John Hunter, a drawing of a finger with a vaccine pustule upon it ; and he at that time proposed to Mr. Hunter vaccine inoculation as a mode of preventing the Small Pox. Mr. Hunter advised Dr. Jenner to prosecute the inquiry, which was then too new to form an opinion upon.

This whole evidence was most satisfactory ; and the counter-evidence of those who were the declared enemies to Vaccination and to Dr. Jenner, was surprisingly frivolous. It must indeed be concluded from the feebleness of their testimonies,, when contrasted with the fury of their writings, that either a sense of inferiority in the presence of other professional gentlemen overpowered them with shame, or that they were restrained with awe by the majesty of the House of Commons.

Dr. Moseley * was particularly cautious : he owned he was not conversant with the practice of Vaccination, and that sufficient time had not yet elapsed to enable him to form a correct opinion. He had heard, indeed, of some failures, but could neither recollect the cases, the informers, nor give any particulars. Finally, he acknowledged, that he was now inclined to think more favourably of Vaccination than formerly.

* Evidence at large, &c. p. 39 and 56.

The testimony of Mr. Birch* was equally tame. He said, he had often seen Vaccination performed, but had neither practised it himself, nor attended to it sufficiently to give a positive opinion upon the subject. Being asked if he knew of any instances where the Vaccine had failed to prevent the Small Pox, he mentioned two or three cases; but acknowledged, upon a cross examination, that the patients had received the infection of the Small Pox previous to their being vaccinated.

Besides these cases, he had heard of some other failures. But being asked at last, if he knew any instance of a person who had been vaccinated, and who caught the Small Pox on being exposed afterwards to the infection: he replied, he did not.

Something tremendous was expected from Dr. Rowley†, whose antipathy to the Vaccine bordered on frenzy: but his deposition was a tale signifying nothing. He said, he had been at Oxford during the summer, where Dr. Wall, and other professors, had informed him that several children there had caught the Small Pox after being vaccinated. He had himself seen two of these cases, one of which terminated fatally.

The Chairman of the Committee transmitted

* Author of *Serious Reasons against Vaccination*, &c.

† *Evidence at large*, &c. p. 115, 167.

this account in a letter to Dr. Wall; who replied, that Dr. Rowley had not recollected accurately their conversation, but had confounded in one statement different cases: one of these was the case of a child who had afterwards been seen by Dr. Jenner, and pronounced by him, on examining the arm, not secure from the Small Pox, unless vaccinated again. This child caught the Small Pox in a mild degree.

There were two other children, patients of Mr. Grosvenor, a surgeon of Oxford, who had been vaccinated, and who caught the Small Pox; one of whom died; but Dr. Wall never saw them.

On a reference to Mr. Grosvenor*, it was communicated that these children had been vaccinated, not by himself, but by one of his young pupils: that, however, he had seen the cases, and they appeared to have received the infection properly.

Dr. Wall, in a second letter to the Chairman, declared, “that he never yet had met
“with any instance which had shaken his opinion
“of the Vaccine being a safe and efficacious pre-
“servative against the Small Pox.” As this Professor had been quoted by Rowley for holding an

* Evidence at large, &c. p. 153. 168.

opposite opinion, the gentlemen of the Committee, being ignorant of the character of the latter, stared on reading this contradiction to his testimony; and their surprise was not diminished when they heard him very frankly contradict himself. For, after endeavouring to prove the superior safety of variolous inoculation to the new practice, by affirming that disorders and humours had been excited by Vaccination; on his cross-examination, he restricted these effects to the incipient practice, and allowed that they were now obviated. He also declared that he had seen symptoms of a worse nature, and which sometimes proved fatal, after the inoculation of the Small Pox.

This conclusion induced the good-natured part of the profession to hope that Rowley had become repentant; but after he had escaped from the salutary awe which had held him within due bounds, he relapsed, and wrote an insane pamphlet*, in which he accuses the Committee of the House of Commons of having garbled his evidence. This physician was in truth privileged to write what he pleased with impunity; and this very work made it obvious, that, if any consistency had appeared in the report of his testimony, the Committee must have forged it.

* Cow Pox Inoculation no Security against Small Pox Infection, &c. p. 15.

Due attention is now solicited to the remaining evidence, which developed surprising malignity towards Dr. Jenner ; who, during the calm course of his philosophic life, had never given offence to any one, except by his inestimable donation to mankind. Yet, in revenge for this, some devilish engines were now wound up, which, however, unexpectedly recoiled, and overwhelmed the contrivers with shame and confusion.

Dr. George Pearson, being examined by the Committee *, allowed that he had derived his first knowledge of the practice of Vaccination from Dr. Jenner ; but asserted that afterwards he had received information from other sources. He then delivered in several letters which contained the additional intelligence ; and he said that the facts mentioned in them had taken place, in all probability, earlier than the year 1798, when Dr. Jenner published on the subject. He did not however imagine, that Dr. Jenner was acquainted with the substance of these letters ; but believed that the knowledge of the Vaccine was attained by all the parties independently of each other.

The reason avowed for producing these letters was to prove, that there were other persons besides Dr. Jenner, who had claims to parti-

* Evidence at large, &c. p. 104, and Supplement.

cipate in this discovery ; but, on examining their dates, all of them were found to have been written subsequent to its promulgation.

This alone was sufficient to destroy every pretension which could thus have been set up. For, after a secret is completely divulged, it is very easy, by mistatements, exaggerations, or inventions, to feign a prior knowledge. Therefore, if George Pearson's correspondents had even laid any claim in these letters to the discovery of Vaccination, the posteriority of their date would have been a fatal objection. But in truth they were not so presumptuous : for none of them brought proof of their ever having vaccinated a single individual. It appeared, however, that these persons, residing in the dairy counties, had heard the reports of the prophylactic properties of the Cow Pox ; and one of them being a surgeon, had found by experience, that milkers who had been infected with that complaint, often resisted variolous inoculation. These facts were familiar to many, but the capacity of profiting by the occasion was wanting : and they were now soured with vexation at viewing what a superior intelligence, with the same opportunities, had accomplished. The discontent which gnawed their breasts, prompted them to exaggerate their own puny acts, and the reported medical deeds of some country people, with the contemptible design of detracting from the merit of the discoverer. Mr. Her-

man Drew, a clergyman of Devonshire, makes the most conspicuous figure in this junto. He had the folly to write, that Dr. Jenner was no more the discoverer of the Cow Pox and its effects, than he was*.

This showed that he neither knew what had been discovered, nor had read what Jenner had written; who had candidly avowed that a report of the Cow Pox being often a preventive of Small Pox, had been long spread abroad in Gloucestershire. There were also other passages in Mr. Drew's letters equally replete with ignorance and petulance: but it appeared that he had a taste for physic, and had learned from professional men something about the Cow Pox; which intelligence he had long ago communicated to Sir George Baker, President of the College of Physicians. To learn precisely the substance of this communication, Sir George was examined by the Committee†: who said, that Mr. Drew had written to him about twenty-five years ago upon the subject; and "that the
 " result was, there was an opinion prevailing in
 " his neighbourhood, that dairy-maids who hap-
 " pened to get the Cow Pox, were by that means
 " free from the accidental infection of the
 " Small Pox." Sir George also recollected, that he

* Evidence at large, &c. Supplement, p. 160, 156.

† Evidence at large, &c. p. 103.

had wished an attempt to be made to inoculate with the matter of the Cow Pox; but he did not recollect that any such attempt was actually made. Mr. Drew however wrote, that fourteen years ago, he and a surgeon named Bragge had made use of some Cow Pox scabs dissolved in warm water for inoculation, but without success. It is remarkable, that even this futile essay was not confirmed by Mr. Bragge, the supposed operator on the occasion. For, in his letter to the Committee, though he was sufficiently disposed to magnify his exploits, he made no mention of that unsuccessful experiment: the fact, however, not being positively contradicted, Mr. Drew may be permitted to enjoy the credit of having committed that failure.

But Mr. Bragge*, who treated very lightly the merits of Mr. Drew, announced his own to the Committee, with considerable arrogance; declaring, "It is now more than thirty years ago that I first made experiments, and proved that the vaccine disease was a preservative against the Small Pox; and it is, I believe, more than twenty years ago, that, through the Rev. Herman Drew, I acquainted Sir George Baker with the observations and experiments I had then made, which I am certain Sir George will readily acknowledge."

* Evidence at large, &c. p. 161, 159.

It was natural to expect that this confident declaration would have been corroborated by the two persons who were said to be acquainted with the facts. But Sir George Baker could not recollect that a single experiment had been made, and never mentioned Mr. Bragge's name. And Mr. Drew only noticed the fruitless trial with dissolved scabs; in which business he represented himself as the principal, and put Mr. Bragge in the inferior light of a person whom he had employed to perform his operation. Thus it was found, that Mr. Drew did not confirm Mr. Bragge's statement, nor Mr. Bragge, Mr. Drew's; and Sir George Baker, to whom both appealed, supported neither. Mr. Bragge therefore remained in a most mortifying predicament; his evidences gave not the slightest support to his claim; he produced no other proofs, nor did he even relate the particulars of any of the experiments which he asserted he had made. It is true, he averred that he had written papers upon the subject twenty years before, which had been accidentally burnt. But what detriment was that? Suppose Dr. Jenner's papers, containing the whole of his experiments, had been destroyed, could not the loss have been quickly repaired? The man who could make a discovery, could soon restore his proofs. But as Mr. Bragge, neither of his own accord, nor by the prompture of

Mr. Drew, in the space of twenty years recomposed his papers, nor pretended to have repeated his experiments, they must have appeared even to himself insignificant. It may, however, be conjectured that Bragge, like other surgeons in that country, had inoculated some dairymen and dairymaids with Small Pox matter without effect. These inoculations might be termed by a casuist, experiments; but that nothing like Vaccination was ever performed by him, is quite clear, both from his not daring ever to assert it, and also from the testimony of Sir George Baker, to whom, he said, his papers had been transmitted. For Sir George remembered only Mr. Drew's letters; which contained the reports of the dairies, but not one experiment*.

Bragge, indeed, merits some credit for never venturing to detail a single fact in support of his own claim: yet he pretended to recollect some facts which would establish a claim for another; and which, he said †, would convince all, “that Dr. Jenner was not the only person entitled to the reward which may be thought deserving for such a discovery.” (He proceeded thus:) “It is now, I believe, twenty years ago, that Mrs. Rendall, the wife of a respectable farmer in the parish of Whitechurch, near Lyme in

* The Evidence at large, &c. &c. p. 103.

† Ibid. p. 160.

“Dorsetshire, who is at this time a tenant to
 “Lady Caroline Damer in the same parish, for
 “which I have been concerned, as an apothecary
 “cary for the poor, ever since I have been in
 “business, inoculated herself, and three or
 “four children, *for it*; and those children, who
 “have long arrived at manhood, have since inoculated
 “their friends and neighbours whenever
 “an opportunity has offered*.”

As, in the above quotation, the important particle *it* has no antecedent to which it can be referred, the species of liquid with which Mrs. Rendall and her family performed their inoculations is not expressed. Yet no one can believe, that this female leech employed any other than Small Pox matter, which was often used by country gossips. But it is obvious that honest Bragge, who either from ignorance committed a solecism, or from artifice an equivocation, intended it should be understood, that Mrs. Rendall and her grown-up children were experienced vaccinators. The Committee were however saved all trouble respecting this incredible suggestion, as neither Mrs. Rendall nor any of her family could be tempted to testify this; nor could one of those who it was insinuated had been vaccinated, ever be found.

This relinquishment was conclusive: but so

* Evidence at large, &c. p. 160.

great was the invidious passion of detracting from Dr. Jenner, that the dairy counties were ransacked for every rumour or idle tale which might bring suspicion on the originality of his opinions.

It was mentioned in letters from Mr. Drew, and a Dr. Pulteney * of Blandford in Dorsetshire, that they were informed of a woman having made five of her children handle the teats and udders of infected cows; which children, when inoculated for the Small Pox, resisted the infection.

This fact is not satisfactorily ascertained, and the person's name is not even mentioned: but, if true, she was a very sagacious woman.

A nearer approach to the discovery was certainly made by another person, the first account of which came from Mr. Dolling †, a surgeon at Blandford, and being confirmed by the man himself, is entitled to credit ‡.

From various statements it appeared, that a certain farmer of Yetminster in Dorsetshire, named Jesty, inoculated his wife and several children, with matter from the teats of a distempered cow. Whether owing to the operation being rudely performed, or to the matter being of an extremely malignant nature, the

* Evidence at large, &c. p. 156, 157, 158.

† Evidence at large, &c. Supplement.

‡ Medical and Chirurgical Journal, 1802.

arms inflamed most violently, and all were attacked with an alarming fever. Jesty was terrified lest he had poisoned his whole family, and ran in a fright for medical aid. A neighbouring surgeon (Mr. Meach of Cerne) was called in, under whose care the patients recovered.

This farmer cannot be denied the praise of having shown more medical acuteness than all the professional men around him. Yet the event of this inoculation from the cow was so far from leading to the practice of Vaccination, that it deterred both the farmer himself, and all the surgeons who had heard of it, from daring to repeat the experiment.

These were the contents of the letters presented to the Committee: but while it continued sitting, George Pearson was toiling to find out something solid; and after eight days he returned triumphantly with fresh, and, as he boasted, with decisive proofs of Dr. Jenner having been anticipated. He stated * that he was authorized by several persons to inform the Committee, that there was now living near Windsor, the son of an apothecary who had been inoculated by his father many years ago for the Cow Pox: and he afterwards said in conversation, that Mr. Keate, the Surgeon General, was

* The Evidence at large, p. 128, 130.

in possession of some manuscripts written by that apothecary, which would throw light upon the business.

Being asked, "What further facts do you know affecting Dr. Jenner's claim?" he replied, he "admitted that Dr. Jenner was the first who set on foot the inquiry into the advantages of vaccine inoculation; but he apprehended that the practice, though first promulgated by him, had been established almost entirely by other practitioners." It was then demanded by the Committee who those practitioners were: to which, instead of a pertinent answer, an oration of an opposite description was delivered.

The witness unblushingly claimed for himself and Dr. Woodville, the merit of having established Vaccination; who, he said, had found out the Vaccine in some cow-stables near London, had tried it, had found it to succeed, and had disseminated it through England and the Continent. He then depreciated Dr. Jenner's writings, and contrasted their erroneous representations with his own correct productions. Jenner, he affirmed, had published statements of several facts which had opposed difficulties to the progress of Vaccination. But he had instituted experiments which had contradicted the alleged facts, and had, in a great degree, removed the obstructions.

To prove all this, he produced a copy of his

last work, and then descanted freely on alleged mistakes of Jenner, and amplified copiously his own original improvements and laborious exertions down to the year 1799. After which time he considered it of very small importance comparatively what was done by others.

Astonishment devoid of admiration, was depicted on the countenances of the hearers during this harangue; and as this licentiate had once solemnly declared *, “ that he would not “ pluck a sprig of laurel from the wreath that “ decorated the brow of Jenner,” a suspicion naturally arose, that he was only seeking to purloin a branch of the Vaccine for the sake of the golden fruit.

The Committee, in order to ascertain the truth of the principal allegation, summoned to the bar the son of that apothecary who was said to have been vaccinated by his father.

The name of this young man was Thomas Naish; and undoubtedly the opportunity now offered of adding honour to his father’s memory was tempting to filial ambition: the character of the youth may be appreciated by his conduct in this unusual situation. In order to authenticate the manuscript which was produced, he was questioned as to his knowledge of his

* An Inquiry concerning the History of the Cow Pox, &c. By George Pearson, M. D. &c. p. 3.

father's hand-writing : to which he ingenuously replied, " This is the writing which was put into my hands as his ; I never saw my father write." At length these decisive questions were put to him : " Did you ever understand that you were inoculated by your father with vaccine matter?" He answered, " Not for certain : I have heard my mother say, that, at the time of my inoculation, my father was greatly taken up with the study of the Cow Pox, and made many experiments ; but of what nature she did not know." He was next asked, " Did you ever hear her speak of any persons whom she knew to have been inoculated by your father with vaccine matter?" To this he replied, " Certainly not : his experiments were entirely kept secret from her."

The answers appeared to the Committee quite conclusive against Mr. Naish : but George Pearson was violently enraged at their decision, and published soon afterwards a tedious abuse of their Report. The ratiocination throughout that work is of an uncommon kind ; for the inference drawn from the absence of all proof, except the son's acknowledgment that his mother had never heard his father say he had vaccinated him, or any body else, was, that Mr. Naish was an experienced vaccine inoculator*.

* An Examination of the Report of the Committee of the House of Commons, &c. By George Pearson, M. D. &c.

But the manuscripts of this medical practitioner, who resided at Shaftesbury, and died 1785, must not be omitted. His writings had been consigned to his brother-in-law, who was also of the medical profession, but who paid no regard to them; nor have they since been considered by the family as deserving of publication.

Mr. Keate, the Surgeon General, made an extract of that part which alone related to the Cow Pox, and laid it before the Committee. Though it is in fact of no value, yet, to remove all doubts, it is judged advisable to transcribe it.

&c. Vide Appendix, p. 183. Index, word Nash, and various other parts.

The first words of the motto affixed to the title-page are strikingly appropriate: "*Neque enim benefacta malignè detractare meum est.*"

This called forth several lacerating replies, among which were, "Observations on a late Publication of Dr. George Pearson, entitled, 'An Examination, &c.' By Henry Hicks, Esq.;" "Observations on Dr. George Pearson's Examination, &c. By Thomas Creaser, Surgeon;" and various papers in the Medical and Chirurgical Review, &c. &c. By all which Dr. Pearson was reduced to mortifying silence.

Extracts from Manuscripts by Mr. Naish.*

“ It is rather remarkable that no writer
 “ should have taken notice of the Cow Pox. I
 “ never heard of one having the Small Pox, who
 “ ever had the Cow Pox. The Cow Pox certainly
 “ prevents a person from having the Small Pox.

“ I have now inoculated above sixty persons,
 “ who have been reported to have had the Cow
 “ Pox; and I believe at least forty of them I
 “ could not infect with the variolous virus. The
 “ other twenty, or nearly that number, I think it
 “ very reasonable to presume (as they were no
 “ judges), had not the real Cow Pox. It is not my
 “ own opinion only, but that of several other me-
 “ dical gentlemen, that convinces me the Cow
 “ Pox is a prophylactic for the Small Pox. I
 “ have not been able to discover that the hu-
 “ man species get it from the cows in any other
 “ manner than by contact with the parts imme-
 “ diately infected, such as in milking; neither
 “ do I apprehend that one of the human species
 “ can communicate it to another but by the
 “ same means, as I have known some of the
 “ inhabitants of a house where it was, escape

* Report of the Committee of the House of Commons on Dr. Jenner's Petition, May 6th, 1802, p. 43. The Evidence at large, &c. p. 155.

“ it ; but none of those who lay in the same bed
 “ with a diseased person.

“ In Mrs. Scammel and Mrs. Bracker, ino-
 “ culation produced no eruption, no sickness,
 “ and little or no suppuration of the arm. The
 “ place punctured not being bigger, when in-
 “ flamed and suppurated, than a large pin’s
 “ head. It frequently leaves considerable marks,
 “ which are much larger than those of the
 “ Small Pox ; as large (I have measured them)
 “ as a silver threepence.”

As in this paper there is no act even alluded to, except variolous inoculation, it is inconceivable, that a physician should pretend to conclude from the above remarks that Mr. Naish had ever practised Vaccination. The cases of the two ladies are evidently given to illustrate one of the preceding propositions, that the Cow Pox was a prophylactic of the Small Pox ; and the effects which are narrated to have followed, are precisely those which variolous inoculation usually produces in persons who previously had been infected with the Cow Pox, and totally dissimilar to the vaccine vesicle, with its broad crimson areola.

But eighteen months afterwards all cavilling upon this subject was put an end to, by the publication of a letter from Dr. Pew, a most respectable physician, who had succeeded to Mr.

Naish's business, was intimate with the family, and acquainted with all the parties mentioned.

He wrote the following letter to Mr. Creaser, a surgeon at Bath *.

“ Shaftesbury, 14th October 1808.

“ DEAR SIR,

“ Agreeable to your request, I have taken
 “ an opportunity of examining the arm of Mr.
 “ Naish, son of my predecessor, the late Mr.
 “ Naish, surgeon of this place, and also the
 “ arm of Mr. Abraham Mathew, who was ino-
 “ culated by Mr. Naish, *on the same day, with*
 “ *the same lancet, and with some of the same*
 “ *matter*, with which he inoculated his two sons;
 “ and this was done at the particular request of
 “ Mrs. Mathew, who told Mr. Naish, that if he
 “ inoculated her son with the same Small Pox
 “ matter with which he inoculated his own chil-
 “ dren, she should have the best of all possible
 “ securities that it was taken from a proper
 “ person.

“ This information I had some time ago from
 “ Mrs. Naish; and this very morning I acci-
 “ dentally met Mrs. Adams (late the above Mrs.

* Observations on Dr. Pearson's Examination of the Committee of the House of Commons, preface, p. 10. Second Edition. By Thomas Creaser, Surgeon. Evidence at large, &c. p. 208.

“ Mathew), and took the opportunity of asking
 “ her respecting the inoculation of her son;
 “ who told me, that she never had the most dis-
 “ tant idea that the matter with which her son
 “ and Mr. Naish’s children were inoculated was
 “ at all different from the Small Pox matter:
 “ that her son was exceeding ill in breeding the
 “ Small Pox (as she supposed it to be): that he
 “ had more than three hundred pustules: that she
 “ recollected nothing different in these from the
 “ pustules of another child of hers, since inocula-
 “ ted for the Small Pox by him: and that a great
 “ number of persons, some of them her relations,
 “ were inoculated by Mr. Naish at the same time,
 “ on account of the Small Pox raging universally
 “ at that time in the town; all of whom, as she
 “ apprehends, sickened for the Small Pox in the
 “ usual manner, and had more or fewer variolous
 “ pustules. With respect to the late Mrs. Scam-
 “ mel and Mrs. Bracker, both of whom have
 “ been my patients, and who, it has been in-
 “ ferred from Mr. Naish’s papers, were inocu-
 “ lated by him for the Cow Pox, I have clearly
 “ ascertained to have been both inoculated for
 “ the Small Pox; and the slightness of the ef-
 “ fect evidently arose from their having taken
 “ the Cow Pox when girls, by milking their fa-
 “ ther’s cows; which fact I have learned from
 “ Farmer Phillips, the brother of both, and
 “ from Farmer Scammel, the widower of the

“ late Mrs. Scammel. If any further investiga-
 “ tion which it may be in my power to make
 “ should be deemed necessary, you may com-
 “ mand the impartial exertions of,

“ Dear Sir,

“ Your most faithful, &c.

“ R. PEW.

“ N. B. It may not be improper to mention
 “ that at the time Mrs. Scammel was inoculated
 “ by Mr. Naish for the Small Pox, six or seven
 “ of her children were also inoculated, all of
 “ whom had more or fewer pustules, although
 “ she herself escaped with the slight affection of
 “ the arm Mr. Naish recorded.”

Truth, as appears by the above letter, was
 natural to the widow of Mr. Naish : she was su-
 perior to making concealments, and honourably
 divulged all the circumstances accompanying
 the inoculation of her son, although they were
 completely subversive of the notion that her
 husband had invented Vaccination, and of the
 distinction which she and her family would have
 attained from that belief.

In delineating so pleasing an example of ge-
 nuine virtue, the pen glides swiftly and smoothly
 along, and some relief is procured from the la-
 borious toil of pursuing Detraction through all
 her foul and crooked tracks.

As it was hopeless to elude the force of Dr. Pew's letter by sophistry, no reply was ever attempted. It totally overthrew the last project of Dr. Jenner's enemies, and sunk them into a state only to be alleviated by oblivion.

All doubts were removed by the scrutiny, and a result produced unforeseen by those who set it on foot. For, without such an examination, it might have been imagined that this discovery was no very difficult matter, and that Jenner was only fortunate in having resided on a spot where the Vaccine was endemic. But the investigation showed that the peculiar quality of the Vaccine had been known long; indeed, perhaps, for ages. This knowledge had been generally diffused over the west of England, both among the medical profession and others. It had been communicated to Sir George Baker and to the celebrated Hunter, and also to many other distinguished professional and philosophical persons. It had even been published in several medical works, and annually taught to the medical pupils of London for upwards of twenty years. In Ireland, Holstein, Lombardy, and Persia, the primitive facts had been also observed, but, like wild seeds, had been totally neglected, until gathered, transplanted, and disseminated by the assiduous hands of Jenner.

Secrets, after disclosure, are wont to seem easy; yet the Spanish wiseacres, who thought so, were puzzled to make an egg stand an end. And before the invention of Vaccination, it would have been considered as feasible a project to devise a means of extinguishing the Small Pox, as to search after the philosopher's stone.

CHAP. VIII.

THE DEBATE AND VOTE OF THE HOUSE OF
COMMONS UPON DR. JENNER'S
PETITION.

THE Committee having finished their deliberations, drew up a Report, expressed in as favourable terms towards Dr. Jenner, as the caution and formality of parliamentary language would admit. On May 6th, 1802, this Report was brought up to the House of Commons, and ordered to be laid upon the table; and on the 2d June, the House having formed itself into a Committee of Supply, the business was taken into consideration. Admiral Berkeley first arose, and spoke to the following effect: "In
" the investigation of a matter of so much im-
" portance to mankind as the discovery of Vac-
" cination, it was not thought right by the Com-
" mittee to confine their examinations, as is
" usual, to the petitioner's evidence. But they
" likewise sought for the testimony of all those
" who were hostile to the new practice, and
" who were most keen to detect its fallacy.
" This rigorous proceeding, which may have ap-

“ peared to bear hard upon the petitioner, has
 “ only confirmed his triumph. For, although the
 “ very kennels were raked to find anonymous
 “ libels and defamatory writings against this
 “ discovery; yet so perspicuous were the proofs,
 “ and so clear the explanations of every objec-
 “ tion, that additional lustre has been acquired
 “ by this inquisition. Upon the beneficial ef-
 “ fects of Vaccination, the Report contains the
 “ scientific opinions of the first medical men in
 “ this country; and should this be insufficient,
 “ there is the homage which has been paid by
 “ Europe to the bestower of this blessing, and
 “ the applause he has obtained from the world,
 “ to satisfy this House and the British nation;
 “ who, though slow to believe, are ever willing,
 “ when convinced, to reward with liberality.

“ In a national view, both in peace and war,
 “ one great benefit from this invention has fre-
 “ quently been overlooked, and which I shall
 “ therefore notice. So mild is the operation of
 “ the Vaccine, that, during the whole process,
 “ labourers have continued to earn their daily
 “ tasks for the maintenance of their families;
 “ and mariners and soldiers have performed
 “ their duties, through one of the most severe
 “ and fatiguing campaigns that was ever sus-
 “ tained.

“ As to the remuneration which ought to be
 “ granted, I know not how this is to be appre-

ciated. Here I hold in my hand a list of various sums which have been bestowed upon ingenious men, for inventions of far inferior value; and there is a vote of Parliament, offering 20,000*l.* to whoever shall discover the longitude. Although, without that knowledge, we are enabled to circumnavigate the globe, yet I as a seaman would certainly rejoice to see that reward claimed; but if the discovery were made, I could not look upon it as comparable to that of Vaccination, which is calculated for the preservation of so large a portion of the human species. It has been proved that nearly 40,000 persons in these united kingdoms alone, die annually of the Small Pox. Is the invention which can put an end to this mortality not to be rated higher than the discovery of the longitude, by which not a single life would be saved? But should the whole world be taken into the account, it will appear, that a victim is sacrificed at the altar of the Small Pox, every second that is struck by the hand of time.

This may be put in another point of view: suppose it were proposed in this House to reward any man who saved the life of a fellow-creature with ten shillings; the smallness of the sum would appear ludicrous; yet if the statement of 40,000 deaths be correct, and if this discovery shall prevent them,

“ Dr. Jenner, by such an agreement, would be
 “ entitled to 20,000*l.* a year. I, however,
 “ who am a personal friend and an admirer of
 “ Dr. Jenner, shall only move, that a sum of
 “ not less than 10,000*l.* be granted him ; declar-
 “ ing, at the same time, that I do not think
 “ it sufficient ; and should other Members
 “ of this House propose a larger sum, I shall
 “ hold myself free to vote for it.”

Sir Henry Mildmay next got up, and said,
 “ I declare I think the sum proposed by no
 “ means adequate. The benefit arising from the
 “ discovery is great, and the conduct of Dr.
 “ Jenner in disclosing it to the world, and in
 “ giving every information upon the subject, was
 “ most liberal. And there is ample testimony,
 “ that if he had locked up the secret in his own
 “ breast, he might easily have realized a hun-
 “ dred thousand pounds. I therefore move to
 “ insert in the resolutions the sum of 20,000,
 “ instead of 10,000 pounds.”

Mr. Banks pronounced, “ That there was a
 “ paramount duty invested in that House, as the
 “ guardian of the public purse, which it be-
 “ hoved them to attend to.

“ On looking into the precedents relative to
 “ the present case, they resolved themselves into
 “ two divisions: the first was where the disco-
 “ very was divulged ; the second, where it was
 “ kept secret, and had become the subject of a

“ bargain between the public and the inventor.
 “ Of this last class there were several instances,
 “ where this House, led away by fashionable ru-
 “ mour, had voted sums of money, which now
 “ they might wish to be recalled. One of these
 “ was the grant of 5000*l.* to Mrs. Stevens for
 “ a solvent for the stone, which experience after-
 “ wards proved to be inefficacious. Although
 “ he believed that there was little danger of the
 “ present discovery falling into discredit by
 “ subsequent practice, yet he wished to put the
 “ House into a state of diffidence upon the sub-
 “ ject. Besides, if it were once conceded that
 “ every discovery of utility ought to be remu-
 “ nerated by that House, the public purse would
 “ not be large enough for the claimants.

“ The conduct of Dr. Jenner certainly dis-
 “ played the greatest liberality ; yet it was un-
 “ fortunate that he did not conceal his secret, as
 “ he would then have been remunerated by his
 “ own practice : but there was reason to believe
 “ that this would still be the case, as the in-
 “ ventors of the Small Pox inoculation made
 “ ample fortunes ; they being preferred to other
 “ medical men for conducting the process, even
 “ after the method was disclosed. I contend
 “ that Dr. Jenner has the means of remune-
 “ rating himself ; and that this is not a question
 “ of justice, or I would ask, why was the sum
 “ so restricted ? and though I acknowledge the

“ general benefit of the discovery, I cannot
 “ think myself justified in thus voting away the
 “ public money.”

Mr. Banks, whose intentions are always pure, erred on this occasion egregiously; from having ventured to speak without the slightest information on the subject. By the words *inventors of Small Pox inoculation*, he probably neither meant the Indian Bramins, nor the Arabian shepherds, from whom that practice was derived, nor Lady Mary Wortley Montague, who first brought it to Europe; for none of these persons made fortunes by the invention; and the authors of it are still unknown. If the allusion were to the Suttons *, their success was foreign to the argument; as they like empirics kept their treatment of the Small Pox secret. If due respect were always paid to the great council of the nation, the Members would carefully inquire before they offered their advice, and not treat Parliament with their first crude conceptions, like a club-room.

Mr. Windham replied to Mr. Banks, “ Cer-
 “ tainly much of what has been urged by my
 “ Honourable Friend leads to a conclusion the
 “ reverse of that which he has drawn.

“ That this House is the guardian of the pub-

* History of the Small Pox, by the Author, p. 267.

“ lic purse, is admitted by all ; whence it follows
 “ that we should never grant a reward where it
 “ was not merited. Our first question, there-
 “ fore, should be, does this discovery deserve a
 “ reward ? If this is decided affirmatively, we
 “ should next consider, what the amount of the
 “ reward ought to be ?

“ My Honourable Friend stated that there
 “ had been persons who had concealed their
 “ inventions, and bargained for their price.
 “ But the petitioner had most meritoriously
 “ adopted an opposite conduct ; by imparting
 “ his discovery to the world, and proving its
 “ utility, before he solicited a reward. Had he
 “ adopted concealment, I am at a loss to say
 “ what sum it would have been the duty of this
 “ House to have voted for the purchase of such
 “ a secret.

“ When my Honourable Friend, who was a
 “ member of the Committee, observed, that in
 “ some instances rewards had been bestowed
 “ impolitically, I conceived that he was going
 “ to contend, that there was either no merit in
 “ Dr. Jenner’s invention, or at least that there
 “ were doubts of its efficacy. But, on the con-
 “ trary, he concurred in the general opinion of
 “ the great merit of the discovery ; and yet con-
 “ cluded against allowing any reward. Surely,
 “ after admitting the utility, our next considera-
 “ tion ought to be the extent of the beneficial

“ effects : these, in the present case, are beyond
 “ all estimation ; for the discovery leads to the
 “ complete eradication of a dreadful disorder.

“ One point still remains to be examined ;
 “ whether this was an invention that could pay
 “ itself. For if this were so, the inventor could
 “ have no claim for a remuneration from the
 “ public.

“ But there was no prospect of this in the
 “ present case, as the invention is capable of
 “ being used, not only by every medical man,
 “ but even by others. The case of the Suttons,
 “ the improvers of Small Pox inoculation, which
 “ was alluded to by my Honourable Friend, was
 “ essentially different. For, instead of divulging,
 “ they had most sedulously concealed their secret.

“ It might, indeed, be alleged, that this
 “ discovery could not have been kept hid for
 “ any great length of time. But although com-
 “ plete secrecy might have been difficult, yet
 “ doubts of the knowledge of others would
 “ have given to Dr. Jenner a decided preference
 “ in practice. The wealthy would universally
 “ have applied to him ; there was, therefore,
 “ great merit in his disclosure.

“ I have no hesitation, then, in saying that
 “ the discovery of Vaccination was one which
 “ was entitled to reward ; and that a reward
 “ ought to be given, not only for the sake of
 “ this discovery, but to excite others to bend

“ their minds to invention, and when they
 “ have succeeded, to impart their discoveries
 “ freely to the public; and with respect to
 “ the larger of the two sums proposed, it ap-
 “ pears to me on this occasion the least that can
 “ be given.”

Sir James Sinclair Erskine* remarked,
 “ that there was one point which had not yet
 “ been adverted to. I have it from the best autho-
 “ rity, that in completing and in extending this
 “ discovery, Dr. Jenner has actually expended
 “ no less than 6000*l.*; that he has also aban-
 “ doned a practice in the country of full six hun-
 “ dred a year; and that his professional income
 “ since his residence in London, was not equal to
 “ his house-rent. Should, therefore, the majo-
 “ rity of the House object to granting 20,000*l.* I
 “ hope they will at least vote for 15,000*l.* that
 “ Dr. Jenner may acquire 9000*l.* clear.”

Mr. Michael Angelo Taylor “ objected to Dr.
 “ Jenner’s expenses being adduced to influence
 “ their decision, because these not having been
 “ stated by the Committee as a ground for their
 “ resolutions, they were not at present regularly
 “ before the House.” In answer to this, Mr.
 Hobhouse read several extracts from the Report
 of the Committee, relative to Dr. Jenner’s ex-
 penses, and then added, “ that these expenses

* Now Earl of Rosslyn.

“ having been thus noticed, as one of the points
 “ of their deliberations, they could be stated
 “ in argument without any infringement of the
 “ regularity of their proceedings.”

Mr. Addington, Chancellor of the Exchequer, then arose and addressed the House as follows: “ One thing is clear, that whatever
 “ sum of money the Committee shall grant to
 “ Dr. Jenner, he has already received the great-
 “ est reward which can be bestowed; the una-
 “ nimous approbation of the House of Commons:
 “ an approbation most richly deserved, as it has
 “ been acquired by one of the most important
 “ discoveries to society, that was ever made,
 “ since the creation of man. Happily there is
 “ no difference of opinion on the merit of Dr.
 “ Jenner. That he is the discoverer, and that
 “ the value of the discovery exceeds all calcula-
 “ tion, are incontestably proved by convincing
 “ evidence; and it is also made manifest, that
 “ he has precluded himself from great emolu-
 “ ments by his generous disclosure. Notwith-
 “ standing my wishes for rewarding such a per-
 “ son; yet knowing the duty I have to dis-
 “ charge respecting public money, I must entreat
 “ the Committee to pause, before they adopt the
 “ amendment which has been proposed.” For it
 “ is evident, that one effect of this discussion
 “ will be to confirm the general adoption of this
 “ new species of inoculation; another conse-

“ quence will be, to establish for ever the fame
 “ of Dr. Jenner; and it must also be expected,
 “ that a vote of ten thousand pounds as a
 “ reward, will extend widely the practice of
 “ that physician. If I were called upon to say
 “ what was the value of the discovery, and if I
 “ were to be governed in my vote by that valua-
 “ tion, I should not know what sum to specify;
 “ for the discovery is inestimable. But this is
 “ not the principle on which it is practicable
 “ to proceed; the benefits are boundless, where-
 “ as the remuneration must have limits: so the
 “ question to be decided is, what, under all
 “ the circumstances, would be a reasonable re-
 “ compensate to the discoverer. The difference
 “ between 10,000*l.* and 20,000*l.* is not the
 “ standard by which the Committee are to
 “ pronounce upon the merit of Dr. Jenner: as
 “ their vote now might be restricted by eco-
 “ nomy towards the public; and the question
 “ may be renewed at some future period; when
 “ the advantages of Vaccination shall have been
 “ more generally and indisputably acknow-
 “ ledged. When I call to mind the prodigious
 “ benefits which result from this invention, I
 “ confess it is painful to me to oppose any sum
 “ of money that could be proposed, and it is
 “ only from a conviction that Dr. Jenner will
 “ acquire by this deliberation many other advan-
 “ tages, that I think myself bound to support

“ the original motion. In drawing this conclu-
 “ sion, it is requisite to resist the impulse of
 “ my own feelings ; and to attend to nothing,
 “ but a sense of public duty. Yet it is a satis-
 “ faction to reflect, that, by the sanction of this
 “ House, the medical practice of Dr. Jenner
 “ will be greatly extended, and the comforts
 “ of his family also provided for ; while he
 “ will receive another and a far superior reward,
 “ from the consciousness of his own benevo-
 “ lent conduct.”

Mr. Grey then said, “ From the general
 “ tenour of the last Right Honourable Gentle-
 “ man’s speech, and especially from his admis-
 “ sion of the vast benefits flowing to mankind
 “ from Vaccination, I had entertained hopes,
 “ that he would have concurred in the amend-
 “ ment. Indeed, though no one can call in
 “ question the importance of the discovery, yet
 “ a difficulty may be raised, concerning the
 “ extent of the remuneration. Yet I have heard
 “ no sufficient reason for limiting the sum to
 “ 10,000l. ; and if we contract our views to mere
 “ calculations of the expenses which Dr. Jenner
 “ may have incurred, and of the losses he may
 “ have sustained, we risk only indemnifying,
 “ instead of rewarding him. One Honourable
 “ and frugal Gentleman even expressed an alarm
 “ of this becoming a dangerous precedent,
 “ and of the public purse not sufficing for such

“ claims. I have likewise fears, though from a
 “ different source ; for I dread that we shall
 “ never again have the happiness of rewarding
 “ a similar invention. The Right Honourable
 “ Gentleman who spoke last, imagines that a
 “ great increase of Dr. Jenner’s income is likely
 “ to arise from an augmentation of his medical
 “ practice. But this is a vain expectation ;
 “ since he has rendered Vaccination familiar to
 “ the profession, and has diffused this know-
 “ ledge as widely as was in his power, sacri-
 “ ficing every expectation of private emolument
 “ to the public good. Neither can I allow my-
 “ self to be influenced by another motive which
 “ has been assigned ; that Dr. Jenner has
 “ already obtained a lasting and superior reward
 “ from the consciousness of the good he has
 “ done ; for surely this House will not deduct
 “ any portion of their pecuniary reward, on
 “ account of the discoverer having obtained the
 “ moral gratifications springing from virtue ;
 “ unless they should also consider it fitting to
 “ compensate those who are enduring the tor-
 “ menting reflections inseparable from vice.”

Notwithstanding the favourable reception of
 Mr. Grey’s speech, Mr. Wilberforce would not
 risk a decision upon a question interesting to
 humanity, without adding his wonted support.
 “ It is proved by evidence, that Dr. Jenner had
 “ been engaged for upwards of twenty years in

“ completing his discovery : and it cannot be
 “ questioned, that if, during the time devoted to
 “ this interesting subject, he had exerted his
 “ abilities in acquiring general business, his
 “ income would have augmented. He is there-
 “ fore, at present, a material sufferer in the
 “ public service, and ought to be fully recom-
 “ pensed ; nor should the allegation of an ex-
 “ pected increase of private business, prevent a
 “ proper remuneration from this House ; for Dr.
 “ Jenner is not to be considered as a young
 “ medical adventurer expecting to push him-
 “ self into practice by Vaccination. He had
 “ before attained medical celebrity, and aban-
 “ doned an extensive business to enable him to
 “ establish his discovery : and there is no like-
 “ lihood of his being able to resume, even that
 “ which he had forsaken. Indeed, many are led
 “ to suspect, that, from an exclusive attention
 “ paid to the Vaccine, he has become less skil-
 “ ful in other branches of medicine ; and in
 “ consequence of having candidly imparted all
 “ his knowledge to the world, and of having
 “ rendered others equally competent as himself
 “ to employ his invention, he will rarely be pre-
 “ ferred even for vaccinating. On every view
 “ of the subject, I think the larger sum ought
 “ to be voted.”

When the Chairman was about to put the
 question, Mr. Courtenay started up and said :

“ The propositions before us have been gravely
 “ argued by various Members, according to their
 “ peculiar propensities, morally; philosophically;
 “ and medically; it only remains for me to treat
 “ of them economically; for which, without
 “ boasting, I am excellently qualified, both by
 “ nature, and by circumstances. I may venture
 “ to assert, that I have a practical knowledge of
 “ the inconveniences resulting from errors in
 “ private accounts; and the present state of
 “ those of the public is not exempt from them.
 “ Embarrassments have taught me arithmetic,
 “ which is useful for both; so the House may
 “ confide in my calculations; and if they will
 “ also trust to my experience, they will give the
 “ highest encouragement to whoever invents
 “ new ways and means. It was computed by a
 “ celebrated author on finance of the last cen-
 “ tury, that every individual in these kingdoms,
 “ by his consumption of wares, paid forty shil-
 “ lings annually to the revenue. Every man
 “ was consequently estimated at that sum.
 “ Now, if it should be granted, that the value of
 “ human beings keeps pace with other articles
 “ of manufacture, the price of an Englishman
 “ must have risen to five pounds nineteen shil-
 “ lings and a groat; that is, nearly treble what
 “ he was worth at the Revolution. Therefore
 “ Dr. Jenner, by preserving every year 40,000
 “ of these commodities, men, pours annually

“ into His Majesty’s Exchequer, one hundred
 “ eighty thousand and some odd hundred
 “ pounds. I then strongly advise that this
 “ House, putting aside all fantastical notions of
 “ humanity, and sensibly minding our own in-
 “ terest, should allow Dr. Jenner, or any one
 “ else who does as much for the revenue, to
 “ touch a neat premium of 20,000*l*.”

The House then divided upon the original motion for granting 10,000*l*. which was carried by a small majority of three: all those who approved of the amendment, voted in the minority. It is greatly to be regretted, that neither Mr. Pitt nor Mr. Fox attended the House, when a question so favourable for eloquence was agitated.

CHAP. IX.

PARLIAMENT RECONSIDERS THE FORMER VOTE, AND
GRANTS AN ADDITIONAL REWARD.

THE sanction of a vote of Parliament, and the unanimous applause of the House of Commons, enabled the Vaccine to assume a more lofty demeanor, and to advance with a more steady pace. The fame of Jenner also was now established; but no increase of his professional income ensued; though this expectation had been the chief reason for not acquiescing in the larger remuneration. This disappointment was owing to a peculiarity in human nature. Jenner was no longer considered as a mere physician; he was now conspicuous among philosophers. Ordinary indispositions were thought beneath his attention; and the imputation of being a speculatist is so terrific to the sick, that they usually preferred to him any common practising drudge. It is not always in proportion to their eminence as men of science, that physicians prosper; for the public is swayed in their selection by affection, rumour, fashion, and family influence: besides, the minds of invalids are frequently so enfeebled, that their imaginations are susceptible of chimerical apprehensions and ex-

travagant expectations. Plain dealing is then insupportable, and they are disposed to put much more confidence in the mysterious, than in the expounder of mysteries. The advantages resulting from Vaccination, and the inadequateness of the reward, became daily more evident; but the subject was neglected by the House of Commons, during the second and calamitous administration of Mr. Pitt. He was a man, whose commanding eloquence, soon after he opened his lips in Parliament, swayed this empire; and, except for a short interval after a voluntary resignation, he governed it until his death. When this event took place, in January 1806, his rival Charles Fox, then without a competitor, but declining in health, obtained the chief power. Lord Henry Petty* was immediately appointed Chancellor of the Exchequer, who in a few months afterwards resolved to bring the business of Vaccination again before the House of Commons. His Lordship accordingly, after giving the usual notice of his intention, addressed the House on the second of July, to the following effect:

“ Mr. Speaker, I rise to call your attention
 “ to a subject which concerns the health and
 “ lives of a large portion of His Majesty’s sub-
 “ jects; and which therefore requires the most
 “ serious consideration of Parliament: I allude

* Now Marquis of Lansdowne.

“ to the discovery of a preventive of that loath-
 “ some disease the Small Pox, which spreads
 “ death throughout the world.

“ It was in the year 1777, that Dr. Jenner
 “ first obtained some obscure knowledge of the
 “ peculiar property of the Vaccine. From which
 “ period he meditated profoundly on the subject,
 “ accumulated information, and instituted cau-
 “ tious, yet decisive experiments. At length he
 “ perfected the discovery of Vaccination, and
 “ published it for the benefit of mankind. A Par-
 “ liamentary inquiry into this important inven-
 “ tion was instituted four years ago, when incon-
 “ trovertible proofs of its eminent utility were
 “ submitted to this House, under the sanction of
 “ which, this great improvement in the practice
 “ of physic was gradually established throughout
 “ the British dominions. It was also adopted in
 “ foreign countries, and with greater zeal than
 “ in this. For, so early as the year 1799, vaccine
 “ lymph was transported to America, and has
 “ even reached the Indian tribes. In the year
 “ 1800, under the auspices of the Commander in
 “ Chief, it was conveyed to the Mediterranean,
 “ and was received with gratitude in Malta,
 “ Sicily, and the kingdom of Naples ; it was also
 “ soon disseminated not only throughout the
 “ whole Continent of Europe, but transported to
 “ India and China, producing every where all
 “ the beneficial effects averred by the discoverer.

“ What has occurred at Vienna deserves parti-
 “ cular notice ; because in that capital exact
 “ mortuary registers are kept. For some years
 “ preceding the introduction of Vaccination, the
 “ average number of deaths by Small Pox
 “ amounted to 835. Vaccination commenced
 “ in Vienna in 1799, and in the year 1802,
 “ only sixty-one persons died of Small Pox ; in
 “ 1803, the numbers were reduced to twenty-
 “ seven ; and in 1804, to two. Thus, in one city,
 “ there is already an annual saving of the lives
 “ of 833 human beings. This undoubted fact
 “ has made a deep impression upon my mind ;
 “ but I am concerned to observe, that although
 “ Vaccination is diffused with success and appro-
 “ bation throughout other countries, yet here,
 “ where it was discovered, it has undergone in
 “ the last year a retrograde movement. For, in
 “ the city of London, previous to this discovery,
 “ the annual deaths by Small Pox amounted on
 “ an average to 1811 persons ; this mortality
 “ was gradually reduced by the practice of Vac-
 “ cination to 629 : but in the last year the con-
 “ tagion of Small Pox has been renewed by the
 “ baneful practice of variolous inoculation, and
 “ 1681 persons have fallen a sacrifice to this
 “ dreadful malady. This shocking destruction,
 “ especially when a certain preventive is known,
 “ demands our most serious deliberation ; and
 “ I feel it incumbent upon me, in the situation

“ which I now fill, to propose a plan which will
 “ bring forward a mass of evidence to ascertain
 “ the truth and enlighten the public. With this
 “ view I move, ‘ That an humble Address be pre-
 “ sented to His Majesty, praying he will be
 “ graciously pleased to direct His Royal College
 “ of Physicians to inquire into the state of vac-
 “ cine inoculation in the United Kingdom, and
 “ to report their opinion as to the progress it
 “ has made; and the causes which have retarded
 “ its general adoption.’ Should this Report from
 “ the highest medical authority corroborate the
 “ favourable opinion which foreign nations enter-
 “ tain of Vaccination, it must greatly tend to
 “ subdue those prejudices which have been
 “ fomented here. And in that case, this House
 “ may afterwards consider, whether the inge-
 “ nious discoverer has been remunerated con-
 “ formably to the liberal spirit and character of
 “ this country.”

Dr. Mathews then arose. “ Sir, it is with
 “ much satisfaction that I second the motion
 “ which the Noble Lord has made; and I shall
 “ take this opportunity of expressing my senti-
 “ ments on this invaluable discovery. I confess
 “ that I at first distrusted the accounts of the
 “ success of Vaccination; and it was not till
 “ after carefully watching its progress, that I
 “ became convinced of its great superiority over
 “ Small Pox inoculation. There are three

“ strong objections to variolous inoculation :
 “ the first is, the malignity of the disease, from
 “ which cause the countenance is sometimes
 “ deformed with scars, at other times blindness
 “ is produced, and occasionally a miserable
 “ death ensues. The second objection is, the
 “ raising up a baneful contagion which diffuses
 “ the Small Pox in its worst form to others.
 “ And the third is, that it excites scrofula ;
 “ numerous cases of which have come under
 “ my own observation. From all these objec-
 “ tions, Vaccination is exempt ; and I have no
 “ doubt that the country in a short time will
 “ hasten to testify further marks of its gratitude
 “ for the inestimable benefit it has received from
 “ the learned physician by whom this discovery
 “ was made. His name, I doubt not, will be
 “ enrolled amongst those

“ *Inventas aut qui vitam excoluere per artis,*
 “ *Quique sui memores alios fecere merendo *.*”

Mr. Wilberforce succeeded, and said, “ Sir,
 “ that the Noble Lord, who fills a high and
 “ powerful situation, should have taken up this
 “ question, gives me the greatest pleasure ; yet I
 “ am disposed to doubt, whether the plan his
 “ Lordship has suggested, is that which is the

* *Æneid*, lib. vi. l. 663.

“ most likely to effect the purpose intended : I
 “ conceive it would be a preferable course of
 “ procedure, that a Committee of this House,
 “ and another of the House of Lords, should be
 “ nominated to make a full investigation of the
 “ subject. The opinions of such unbiassed
 “ persons would be more congenial to the feel-
 “ ings of the people of this country, and far more
 “ satisfactory, than any medical report from the
 “ College of Physicians. This last might be sus-
 “ pected of being influenced by professional
 “ motives ; whereas the other would be univer-
 “ sally believed to proceed solely from a desire
 “ to promote the general good.

“ There is another measure which might be
 “ adopted with justice and propriety, for which
 “ there are many precedents. The laws of qua-
 “ rantine have long been enforced, and with in-
 “ finite advantage, to secure the public from the
 “ contagion of the plague. Why should we not
 “ impose the same control over those infected
 “ with other diseases, whose intercourse is at-
 “ tended with as fatal consequences? We
 “ know, Sir, by long experience, that the Small
 “ Pox is nearly as destructive a distemper as
 “ the plague itself ; and therefore great advan-
 “ tage would accrue to society by prohibiting
 “ persons labouring under the Small Pox from
 “ mixing with others. The permission to va-
 “ riolated persons of going abroad is of no use

“to them, but of great detriment to the com-
 “munity. And places of reception for those
 “infected children, whose parents have not the
 “means of confining them, might be established
 “by Government. These hints are thrown out,
 “that gentlemen may bear them in their mind.

“That Vaccination should have made less
 “progress here where it originated, than in other
 “countries, is not surprising to me. This is
 “owing to one of those curious principles in the
 “human mind, that inventions create more
 “astonishment and admiration in distant places,
 “than on the spot where they were found out,
 “and where the persons, and accompanying cir-
 “cumstances, are familiarly known. Nothing,
 “perhaps, would tend more to overcome this
 “neglect of Vaccination in the place of its
 “birth, than to infuse information into the
 “minds of the people, ; and to instruct them
 “completely in the success it has produced
 “abroad : by this means we shall enlighten the
 “public, and subdue those absurd prejudices
 “which have been engendered and fostered by
 “certain selfish, interested individuals.”

Mr. Windham then replied, “The only point
 “upon which there appears any difference of
 “opinion, is the mode of effecting the object
 “we have in view ; and I must say, that I am
 “rather inclined to give the preference to the
 “motion brought forward by my Noble Friend,

“The other proposal consists in substituting
 “an investigation by a Committee of Parliament,
 “to that by the College of Physicians. But I
 “am of opinion, that Members of this House
 “are less competent to form a sound judg-
 “ment upon this subject, than medical men; and
 “as this incompetency would be clearly per-
 “ceived by the public, our Report would not
 “have sufficient weight with the people, and
 “would neither allay their suspicions, nor be
 “a guidance for their conduct. But a Re-
 “port from that learned and respectable body,
 “the Royal College of Physicians, when for-
 “mally called upon by Parliament, will make a
 “most forcible impression. Parliament can
 “then come forward just in the way it ought,
 “and add by their authority a superior degree
 “of solemnity to the decisions of the chiefs of
 “the medical profession. To a Committee of
 “this House the common adage might be ap-
 “plied, *Ne sutor ultra crepidam*. For it is well
 “known that a man is a better judge of matters
 “relating to his own business, than those who
 “were not brought up to it. I think then, on
 “the whole, that the plan of my Noble Friend
 “would have infinitely a better chance of over-
 “coming the public prejudices, and of giving
 “validity to the opinions of those who are best
 “able to judge of the merits of the invaluable
 “discovery made by Dr. Jenner. The Honour-

“ able Gentleman who spoke last also recom-
 “ mended a certain degree of compulsion to
 “ prevent contagion spreading among the people.
 “ Such measures should not be adopted without
 “ an urgent necessity ; and if this can be proved
 “ to exist, then Parliament is blameable for not
 “ having adopted them sooner. I know, how-
 “ ever, that if any kind of compulsion is em-
 “ ployed, that moment there is a hatred excited
 “ in the public mind against what may be judi-
 “ ciously advised ; I therefore should be ex-
 “ ceedingly unwilling to resort to such a mea-
 “ sure ; being persuaded that the mild and consi-
 “ derate recommendation of Vaccination by Par-
 “ liament will go infinitely further than any
 “ species of restraint. When this previous point
 “ has been decided upon to the satisfaction of
 “ the public, then will be the time to remune-
 “ rate that meritorious individual, to whom
 “ society owes the utmost gratitude. And I
 “ cannot help thinking he has not yet been suf-
 “ ficiently rewarded for the expense and trouble
 “ the discovery has cost him.”

Mr. Banks then gave this opinion : “ Sir, it
 “ appears to me that the mode proposed by the
 “ Noble Lord is exceedingly eligible at this late
 “ period of the session, in so far as he wishes to
 “ combine the science of a learned body with
 “ the deliberations of the House of Commons :
 “ but if this motion had been made at an earlier
 “ period of the session, I cannot help thinking,

“ that there could not have been a better mode of
 “ procedure, than the other which has been pro-
 “ posed by my Right Honourable Friend. Even
 “ those best acquainted with this matter cannot
 “ pretend to give an accurate account of the
 “ real sources from which the existing preju-
 “ dices have arisen against Vaccination. The
 “ fact which remains to be more clearly ascer-
 “ tained is, whether this discovery, in the mode
 “ in which it is now practised, is of such a sort,
 “ as to afford us a reasonable security against
 “ the ravages of that more dreadful disorder,
 “ which it is intended to prevent. This, Sir,
 “ appears to me a question by no means of a
 “ scientific nature; so that any number of rea-
 “ sonable men are as capable of laying it dis-
 “ tinctly and clearly before the public, as
 “ the most learned body that ever existed.
 “ There is an improvement, or rather an addi-
 “ tion, which I am inclined to suggest, to the
 “ Noble Lord’s motion; that is, the junction of
 “ another learned body, who have been rather
 “ overlooked on this occasion, the Royal College
 “ of Surgeons. And I cannot help stating, that
 “ I still persevere in the opinion I formerly
 “ entertained; if this discovery be of the
 “ utility which I hope it will prove to be, it
 “ will make its way in spite of all opposition:
 “ and in such a country as this, by the im-
 “ mense extension of Dr. Jenner’s medical prac-

“ tice, the learned Doctor will find himself well
 “ remunerated without any thing further from
 “ Parliament.”

Mr. William Smith and Mr. Paull both
 supported the motion; then Lord Henry Petty
 concluded the debate to this effect: “ I expe-
 “ rience a very great degree of satisfaction from
 “ finding the House so unanimous in their
 “ agreement on the general object I had in view.
 “ The motion which I considered it incumbent
 “ on me to make for instituting an inquiry by
 “ the College of Physicians, is intended to com-
 “ prehend all the weight of scientific know-
 “ ledge, combined with the authority of the
 “ government of the country. I cannot agree
 “ with the Right Honourable Gentleman oppo-
 “ site, who suggested the plan of leaving this in-
 “ quiry to a Committee of Parliament, because
 “ there are points to be investigated, which
 “ Members of Parliament are incapable of de-
 “ ciding. Can they judge in doubtful cases,
 “ whether Vaccination had been performed
 “ according to the rules of art? whether the
 “ vesicle was pure or spurious? or, whether the
 “ process had proceeded regularly? If an
 “ eruption broke out afterwards, it would be
 “ impossible for them to determine its nature;
 “ and if other maladies ensued, they could not
 “ decide whether they proceeded from the Vac-
 “ cine, or from other causes. These, and many

“ other questions of peculiar nicety, which fre-
 “ quently occur, can only be solved by the
 “ accurate judgments of experienced medical
 “ men. The proposal to annex the College of
 “ Surgeons to this inquiry, had not escaped my
 “ consideration ; but it is requisite that the in-
 “ quiry should proceed from a centre ; and the
 “ College of Physicians in London, will apply
 “ not only to the College of Surgeons, but to the
 “ Medical Colleges in Scotland and in Ireland,
 “ for every information that can be collected
 “ on this important subject. Thus will the
 “ opinions of the most learned and scientific
 “ professional men of the three kingdoms be
 “ combined : this House will then avail itself of
 “ this accumulated heap of evidence and inform-
 “ ation, and form a decision upon the subject ;
 “ and the whole will be laid before the public, to
 “ remove their prejudices, or confirm their
 “ doubts. Such, Sir, is the mode which appears
 “ to me the most eligible, and I trust that the
 “ House will unanimously agree in the motion
 “ which I have this day submitted to them.
 “ Before concluding, I cannot help taking notice
 “ of one other particular which has been touched
 “ upon in the course of this discussion : it
 “ related to the remuneration which has been
 “ already granted by Parliament to Dr. Jenner.
 “ If the Report shall express such a favourable
 “ opinion of the practice of Vaccination as I

“ have no doubt it will, then I shall think it my
 “ duty to contend on a future day that the remuneration which was granted to Dr. Jenner
 “ for this invaluable discovery is much more
 “ inadequate than it ought to be.”

The motion was then put from the Chair, and agreed to without one dissenting voice. It was next ordered, that the address should be presented to His Majesty by such Members as were Privy Counsellors.

The Royal College of Physicians soon received His Majesty's commands to inquire into the state of Vaccination, and to report their opinion. On which they immediately entered upon the business with great alacrity. In aid of the knowledge of their own body* they applied to each of the licentiates of the College; they corresponded with the Colleges of Physicians of Edinburgh and Dublin; and with the Colleges of Surgeons of London, Edinburgh, and Dublin. They also wrote to the societies established for Vaccination for the result of their practice; and invited by public notice every individual who had any information to give, to send it to them. By those numerous applications extensive information was accumulated. All the Medical Colleges, except the College of Sur-

* Vide Report of the College of Physicians of London, 1807.

geons of London, obeyed the wishes of Parliament ; assembled, deliberated, and, after mature consideration, transmitted a full and clear declaration of their opinion of the new practice. The Court of Assistants, who preside over the affairs of the Royal College of Surgeons of London, adopted a peculiar method of proceeding: instead of assembling the Members of the College, to obtain their opinion collectively on this important business, it was only referred to the subordinate Board of Curators. This Committee considered it expedient to issue circular letters to the Members of the College, who were solicited to communicate the results of their practice in Vaccination, and their opinion upon the subject individually. A very considerable number of surgeons made no reply; however, four hundred and twenty-six answers were sent, among which were letters from those most hostile to Vaccination, who eagerly seized this occasion of transmitting the most unfavourable accounts. It is indeed extraordinary, that, with such an opportunity, the disasters reported were so few, and the proportion of successful events so numerous. The Board of Curators made a brief abstract of the contents of those letters, which stated, that the writers had vaccinated 164,381 persons: in fifty-six of whom Small Pox had occurred afterwards; in sixty-six, eruptions of the skin had followed; and in

twenty-four, inflammation of the arms had taken place, which proved fatal in three cases. The Court of Assistants made no inquiry respecting the authenticity of those accidents, nor even into the cause of the reported deaths: which, however, were ascertained by a private investigation, to have been occasioned by gross ignorance in the treatment of three poor children in a parish workhouse.

As the Corporation of Surgeons of London had lately been elevated to the rank of a Royal College, a luminous and argumentative exposition of their sentiments might have been expected upon this professional parliamentary inquiry. It was an opportunity to be embraced for displaying learning, ingenuity, and disinterestedness. But their Court of Assistants had no ambition to shine, no zeal to be useful: they could not so soon strip off the garb of craftsmen, and assume the robe of academicians; they therefore only passed a precise vote, that the Report of the Curators should be adopted as theirs. And the dry summary of the letters they had received, without a syllable of commentary, and without even expressing an opinion on the subject in question, was presented to Parliament, as the quintessence of the knowledge of the Royal College of Surgeons of London upon the Vaccine.

The other medical corporations acted dif-

ferently. The Royal College of Physicians of Edinburgh were summoned to meet, and after deliberating, declared, that Vaccination was universally approved of by the medical profession in that city; and that the practice had been much more generally adopted in Scotland, than Small Pox inoculation had ever been. The evidence in favour of it appeared to them so strong and decisive, that in May last, they spontaneously and unanimously had elected Dr. Jenner an honorary fellow of their college; a mark of distinction which they very rarely confer, and which they confine almost exclusively to foreign physicians of the first eminence. And this was done with a view to publish their opinion with regard to Vaccination, and in testimony of their conviction of the immense benefits which have been, and which would in future be derived to the world from it; and as a mark of their sense of Dr. Jenner's very great merits and ability in introducing and promoting this invaluable practice.

The Declaration of the Royal College of Surgeons of Edinburgh, agreed to in a full assembly, was equally satisfactory: it stated that Vaccination had increased in that city so rapidly, that for two or three years past the Small Pox had been reckoned rather a rare occurrence. They had pleasure in reporting, that, as far as

their experience went, they had no doubt of the permanent security against the Small Pox; which is produced by the constitutional affection of the Vaccine; and also, that they had met with no occurrence which operated in their minds to its disadvantage. They had seen no instance of obstinate eruptions, or of new and dangerous diseases, which they could attribute to the introduction of this mild preventive of the Small Pox.

It appeared from the Reports of the two Colleges at Dublin, that Vaccination flourished in Ireland as much as in Scotland. The King and Queen's College of Physicians reported, that the general introduction of Vaccination into Dublin, and throughout Ireland, was in the year 1804; that the practice had been found safe, and fully to answer all the purposes that had been intended. Some cases had been reported to them of persons suffering from Small Pox who had been vaccinated: but upon minute investigation, it had been found that these supposed failures originated generally in error, in misrepresentation; or in the difficulty of discriminating between Small Pox and other eruptions; and that no case had come to their knowledge, duly authenticated by respectable and competent judges, of genuine Small Pox succeeding the regular vaccine disease.

The Royal College of Surgeons of Ire-

land confirmed the above, declaring that Vaccination was now generally adopted by surgical practitioners in all parts of that kingdom : that in their opinion the Vaccine was a mild disease, and rarely attended with danger, or any alarming symptom ; and that the few cases of Small Pox, which had occurred in that country, after supposed Vaccination, had been satisfactorily proved to have arisen from accidental circumstances, and could not be attributed to the want of efficacy in the genuine vaccine infection, as a preventive of Small Pox.

These documents, and all others which could be collected, were carefully digested by the London College of Physicians, who framed from the whole one comprehensive Report, which was laid before the House of Commons. The substance of this was, that during the eight years which had elapsed since Dr. Jenner made his discovery public, the progress of Vaccination had been rapid, not only in all parts of the United Kingdom, but in every quarter of the civilized world. In the British islands, some hundred thousands had been vaccinated ; in our possessions in the East Indies, upwards of 800,000 ; and amongst the nations of Europe the practice had become general. Vaccination appeared to the College of Physicians to be in general perfectly safe ; the instances to the contrary being extremely rare. The security derived from Vaccination

against the Small Pox, if not absolutely perfect, is as nearly so, as can, perhaps, be expected from any human invention ; for, amongst several hundred thousand cases, with the results of which the College have been made acquainted, the number of alleged failures has been surprisingly small : so much so, as to form certainly no reasonable objection to the general adoption of Vaccination. Indeed it appears that there are not nearly so many failures, in a given number of vaccinated persons, as there are deaths in an equal number of persons inoculated for the Small Pox ; and it is a most important fact, that in almost every case where Small Pox has succeeded Vaccination, it has neither been the same in violence, nor in duration ; but has, with very few exceptions, been remarkably mild, as if the Small Pox had been deprived by the Vaccine of all its usual malignity.

The College is also very decided in declaring, that Vaccination does less mischief to the constitution, and less frequently gives rise to other diseases, than the Small Pox, either natural or inoculated. It is from a consideration of the pernicious effects of the Small Pox, that the real value of Vaccination is to be estimated. The natural Small Pox has been supposed to destroy a sixth part of all whom it attacks, and about one in three hundred perish, even of those who are inoculated. It is not sufficiently known,

that about one tenth of the whole mortality in London is occasioned by the Small Pox ; and inoculation appears to have kept up a constant source of contagion, which has been the means of increasing the number of deaths. Until Vaccination becomes general, it will be impossible to prevent the constant recurrence of Small Pox, by means of those who are inoculated, except it should appear proper to the Legislature to adopt in its wisdom some measure to prevent those infected with Small Pox from doing mischief to their neighbours. From the whole the College of Physicians feel it their duty strongly to recommend Vaccination ; and they conceive that the public may reasonably look forward with some degree of hope to the time when all opposition shall cease, and when the general concurrence of mankind shall at length be able to put an end to the ravages at least, if not to the existence, of the Small Pox.

Before the above Report, which is dated April 10th, 1807, was laid before the House of Commons, a total change had taken place in the Cabinet, and the administration of Mr. Perceval had commenced. On July 29th, 1807, the Commons being in a Committee of Supply, the Right Honourable Spencer Perceval, Chancellor of the Exchequer, addressed the Chairman as follows : “ I am to solicit the attention of this
“ Committee to the subject of Vaccination,

“ brought into practice by Dr. Jenner, as a
 “ preventive of the Small Pox ; a malady which
 “ has for many ages been one of the greatest
 “ afflictions to mankind ; and from the visitation
 “ of which hardly any human being is spared.
 “ Dr. Jenner was the inventor of this preventive;
 “ which was either not known before, or cer-
 “ tainly never before communicated. And if, upon
 “ a minute and scrupulous inquiry, it should
 “ appear, that this is an absolute antidote to the
 “ Small Pox, it is a discovery of which it is im-
 “ possible to express sufficient admiration, and
 “ impossible to appreciate its value. I should
 “ hope, that when the Committee consider the
 “ extent of the advantages which mankind have
 “ already received from this invention, and the
 “ incalculable benefits which will be derived
 “ from its general adoption, they will not think
 “ the proposal which I shall have the honour to
 “ make extravagant, but regard it as an act of
 “ justice, rather than of liberality. For a dis-
 “ covery of this nature ought to be marked with
 “ something that shall convey the sense we
 “ have of its importance, observing at the same
 “ time an economical regard to the interest of
 “ the public. It is therefore my intention to
 “ move, that there shall be granted to Dr. Jen-
 “ ner, as a reward for his matchless discovery,
 “ the additional sum of 10,000*l.* which is the
 “ remainder of that grant which his friends re-
 “ commended to the House on a former occasion.

“ To those who have taken the trouble to
 “ read the Report of the Royal College of Phy-
 “ sicians, it cannot be necessary that I should
 “ make a single observation ; as all must per-
 “ ceive, from the facts there stated, the immense
 “ advantages of this new practice. As to the
 “ inconveniences which may have arisen from
 “ it, in any shape, they are comparatively almost
 “ nothing to the evils which would have follow-
 “ ed the ordinary course of Small Pox inocula-
 “ tion ; and may be said to be literally nothing,
 “ when we consider that the few unfavourable
 “ cases may have proceeded from the mistakes,
 “ ignorance, or inattention of the practitioners.
 “ We may, perhaps, be met by a fanciful ob-
 “ jection to this discovery founded on the doc-
 “ trine of Malthus : for it has been said, that
 “ diminishing the number of deaths is of no ad-
 “ vantage to the community at large, without in-
 “ creasing the means of subsistence. But if even
 “ this should be proved to be true, I should an-
 “ swer, that I care not for that declaration ; for,
 “ although I should like any plan that would
 “ conduce to the general interest of the state,
 “ yet I like the practice of humanity better ;
 “ and, I apprehend, we have no right to act
 “ upon such an argument, even if it were true.
 “ I apprehend it to be our duty to preserve hu-
 “ man life in every case wherein the individual
 “ has not forfeited it by the commission of some

“ crime for which the law has denounced the
 “ penalty of death. Whatever plausibility
 “ there may be in that system of philosophy
 “ which teaches that an increased population is
 “ an inconvenience to a state, yet for my own
 “ part I think there is no inconvenience so great
 “ as that of constantly opposing the common feel-
 “ ings and common dictates of humanity. And
 “ I have often heard that the best riches of a
 “ state are the number of its inhabitants ; but
 “ whether the new doctrine against population is
 “ true or false, no case has been made out to
 “ show that Dr. Jenner ought not to be rewarded
 “ with the sum of 20,000*l*. I do not mean to
 “ attempt to estimate those lives which will be
 “ saved by this invention ; for, were we to pro-
 “ portionate our reward to the value of the dis-
 “ covery, I know not where we should stop ;
 “ nor do I know what is adequate for the devo-
 “ tion of the time of a man of learning and ge-
 “ nius : all I can say is, that, in my opinion, the
 “ sum which I propose is extremely moderate.”

Mr. Shaw Lefevre opposed the motion of the
 Minister by the following speech : “ It is with
 “ very great reluctance that I rise to oppose an
 “ act of liberality ; but I am acting solely by
 “ what I conceive to be my duty ; I was one of
 “ those who on a former occasion thought that
 “ the application to the House of Commons for
 “ 20,000*l*. was excessive, and I concurred with

“ those who voted for the half only. I ac-
 “ quiesced in that sum from the faith I had in
 “ the Report of a Committee of this House ;
 “ but I now find from the Report of the College
 “ of Physicians, that many of the statements
 “ in the former Report were unfounded. The
 “ first Report stated, that the practice of Vac-
 “ cination was infallible ; but now it appears
 “ that there are fifty-six cases of real failures. It
 “ was also formerly stated, that no other disease
 “ would follow ; but now it seems by the Sur-
 “ geons’ Report, that after Vaccination a scro-
 “ fula has appeared, and some other alarming
 “ symptoms. I should like to call witnesses to
 “ the Bar of this House, by whose testimony I
 “ understand it will be made manifest, that the
 “ Report now before us is inaccurate. Besides,
 “ I do not think this late period of the session
 “ a proper time for voting away a considerable
 “ sum of the public money. As to Dr. Jenner
 “ himself, he is a person for whom I have great
 “ respect ; but it is said that a man of the name
 “ of Jesty found out this remedy ; and if this
 “ House chooses to be liberal, this vote should
 “ be extended to that man, or to his family. I
 “ certainly shall oppose this vote ; but I ought
 “ to add, that I do not know that I shall
 “ always oppose it : my great object is to gain
 “ time ; because I am sure that I want further
 “ time to satisfy myself on the subject.”

The last observation was a very sensible one.

Lord Henry Petty, who had originated the present discussion, supported the motion of his successor in office thus : “ The hesitation which
 “ I feel upon the proposition before us, does not
 “ arise from the motives which have occasion-
 “ ed the dissent of the Honourable Gentleman
 “ who spoke last. It proceeds neither from
 “ any doubt of the efficacy of Vaccination, nor
 “ of Dr. Jenner’s being the discoverer, but
 “ from the difficulty of finding any rule for
 “ administering justice in this case : for, who-
 “ ever considers the value of this discovery
 “ must perceive, that it is impossible for this
 “ House to act towards him with generosity.
 “ Yet it has been objected, that this invention is
 “ not infallible. If this divine attribute should
 “ be insisted upon before a discovery can be en-
 “ titled to reward, no man on earth could ever
 “ receive one. We shall look in vain for infalli-
 “ bility in the labours of men, especially in their
 “ researches in the science of medicine; for
 “ uniformity in the action of remedies depends
 “ upon the general principles which govern the
 “ operations of the human organs ; and ought
 “ not to be expected in every curious deviation
 “ from the usual course of nature, or in every
 “ extraordinary variety of any of the diseases
 “ which it shall please divine Providence to
 “ afflict us with. Absolute, never-failing per-

“ fection ought never to be dreamed of in any
 “ human invention; and we should be well
 “ contented with so near an approximation as is
 “ found in the present discovery. The benefits
 “ daily springing from it are numberless: even
 “ in the few years that are past, multitudes of
 “ seamen, soldiers, and citizens of every de-
 “ scription have been already saved by it. But,
 “ in contemplating the comprehensive scale of
 “ its future effects on the human race, the mind
 “ is lost. It is impossible to find out any com-
 “ mensurate standard to guide our judgment in
 “ rewarding the inventor: but we should re-
 “ member the estimation in which he stands all
 “ over the world: we should remember also,
 “ that we are now acting in the view of other
 “ nations, and that our own character depends
 “ much upon the computation we form of the
 “ successful mental efforts of men of science.

“ As to the system of Malthus, this, in my
 “ apprehension, has been misconceived by the
 “ Right Honourable Gentleman who opened the
 “ debate. It is a system, the result of deep
 “ thought; the product of a philosophical mind,
 “ on which I do not pronounce any opinion. It
 “ is confined to the conduct of a population;
 “ but there is nothing in it which forbids the
 “ extinction of an infectious disease, and espe-
 “ cially of one which occasions a great diminu-
 “ tion of human happiness. Independent of

“ the reward due to Dr. Jenner, there are other
 “ measures, which well merit the serious consi-
 “ deration of this House. It is grievous to hear
 “ of the numerous deaths which are still occa-
 “ sioned by the inoculation of the Small Pox.
 “ Yet, in my zeal for Vaccination, I wish for no
 “ measure of compulsion, nor for any interfe-
 “ rence in the practice of individuals, however
 “ absurd that may be, for the preservation of
 “ themselves or their families. But I have no dif-
 “ ficulty in saying, that no individual has a right
 “ to conduct himself so as to endanger the lives
 “ of others. It has been proved that those who
 “ have been inoculated with Small Pox, by going,
 “ or being carried abroad, spread the fatal con-
 “ tagion to others. I therefore think, that the
 “ state has not only a right, but that it is its
 “ duty, to oblige those who are infected with
 “ Small Pox to remain at home, that this pest
 “ may not be disseminated amongst the com-
 “ munity. It is a gratifying circumstance to ob-
 “ serve, that the learned professors of the
 “ science of medicine, and a very large propor-
 “ tion of the practitioners, have neither been
 “ misled by their interest, nor by narrow preju-
 “ dices, but have acknowledged the excellency
 “ of this discovery, and have supported it with
 “ zeal. We have the further satisfaction to see
 “ that whatever the state of this world may be in
 “ many respects, certainly its appetite for the

“reception of useful knowledge is greater than
 “it was at any former period of its history. I
 “shall not move any amendment to the resolu-
 “tion now before us; but I own I should have
 “no difficulty in acceding to one for a larger
 “sum.”

General Tarleton then arose: “After the
 “luminous speech we have just heard, I should
 “not have presumed to trespass on the time of
 “the Committee, were I not convinced that it
 “was my duty to offer a tribute of applause
 “to the author of this blessing to mankind;
 “which to my knowledge has saved the lives of
 “many subjects in His Majesty’s service. Vac-
 “cination has been found of peculiar utility to
 “soldiers; who during the whole process can
 “continue to march under arms, and perform
 “every military duty. It has been thought
 “that gentlemen in the army were never dis-
 “posed to extol any but successful generals.
 “But I hope that most officers know how
 “to admire the preserver of millions; and will
 “allow that, in future ages, the glory of Dr.
 “Jenner’s fame will be superior to the trophies
 “of the most renowned warriors.”

Mr. Sturges Bourne and Mr. Hawkins
 Browne both supported the motion, and con-
 curred strongly in the opinion maintained by
 Lord Henry Petty, that persons infected with
 Small Pox ought to be restrained from promis-

cuously mingling with the public, and spreading the contagion. The latter gentleman displayed uncommon candour, by attaching shame to himself, for having on a former occasion voted for the lesser remuneration to Dr. Jenner, owing to his being at that time unacquainted with the decisive proofs in favour of the new practice.

Mr. Edward Morris next expressed himself to this effect: “Notwithstanding the powerful
 “arguments we have heard, I do not think that
 “Dr. Jenner’s strongest claim on the gratitude
 “of the public has been hitherto sufficiently
 “pointed out. The great merit of this disco-
 “very is, that you may reasonably expect from
 “it the extermination of the Small Pox; and
 “the great merit of Dr. Jenner is, that this
 “transcendent discovery is all his own. Inocu-
 “lation in the old mode only mitigated the
 “disease in a few, and extended it in all its
 “violence to many. Instead of benefiting
 “mankind, it was therefore prejudicial, and the
 “Small Pox Hospital is a pestilential source
 “which multiplies the victims of this deplorable
 “distemper. The pre-eminent distinction of
 “the new practice is, that it preserves the indi-
 “vidual, and injures no other person. Who-
 “ever adopts it receives an important benefit,
 “and no evil is communicated to others. It is
 “exclusively to the enlightened mind and
 “happy invention of Dr. Jenner, that we owe

“ this preventive ; nor has any one, since its
 “ promulgation, made any suggestion which
 “ deserves the name of improvement. It seems
 “ to me, Sir, we are also bound to consider
 “ that this physician, instead of solely occupy-
 “ ing himself in the lucrative pursuits of his
 “ profession, devoted much of his time for many
 “ years, to perfecting this discovery. He was
 “ thus busily occupied in promoting the interest
 “ of the public, and I shall therefore submit to
 “ the Committee, an amendment of the resolu-
 “ tion, and propose granting to this gentleman
 “ 20,000*l.* instead of 10,000*l.* to mark that sense
 “ we entertain of his merits, and to place him in
 “ a state of independence.”

The amendment was supported by Sir John
 Sebright and Mr. Herbert. Mr. Wilberforce
 then spoke on the same side with great sincerity
 and good judgment ; and Mr. Windham with
 extreme ingenuity.

The Chancellor of the Exchequer strove to
 check this torrent, and said : “ The question
 “ now before us is, whether the sum which I
 “ have had the honour to propose to the Com-
 “ mittee ought to be increased, or not. Now,
 “ upon the fullest consideration, and after allow-
 “ ing to the very able arguments which I have
 “ heard all the weight which they deserve, I can-
 “ not help retaining my first opinion. I hope
 “ the Committee will have a special regard to

“ the times and circumstances, in voting the
 “ public money ; and I trust that I shall stand
 “ excused by the liberality of the House, for the
 “ part which I am taking, and which appears
 “ to me to be the only part which I can take
 “ with propriety. I apprehend, that, in point of
 “ precedent, the Committee are not sanctioned
 “ in adopting the amendment ; since I believe
 “ there is no instance in which the sum pro-
 “ posed by a person in my situation to be raised
 “ out of the public money, has been increased
 “ by the amendment of any other Member of
 “ Parliament. I also apprehend that the adop-
 “ tion of any legal measure whatever, to for-
 “ ward the progress of Vaccination, would do
 “ more harm than good. It is more congenial
 “ to the feelings of the public to leave the dis-
 “ covery to its own merits. For, if you attempt
 “ to do away prejudices by force, you will find
 “ prejudice will attach the longer to those who
 “ are under its influence. No one can suppose
 “ that I am actuated by any improper motives
 “ towards Dr. Jenner, whose merit, I admit,
 “ claims a much larger reward than it is in our
 “ power to afford ; as no money can be deemed a
 “ compensation for the use of his discovery. But
 “ that is not the rule by which we are to mea-
 “ sure our reward ; and I feel that I am bound
 “ to say, if the House should run away with
 “ the idea that 20,000*l.* are not too much to be

“ voted on the present occasion, it will in my
 “ judgment exceed the bounds of propriety; for
 “ then the sum will amount in all to 30,000*l*.
 “ which is, I believe, without a precedent.”

Mr. William Smith did not submit to these objections: he read to the House an abstract from the Madrid Gazette, giving an account of the expedition of Don Balmis, who disseminated the Vaccine through every province of South America, and extended it to the most remote Asiatic nations. He thence showed how much more highly Dr. Jenner was esteemed in foreign countries, than in this; illustrating a maxim from the highest authority, That a prophet hath no honour in his own country. He pressed the Committee to grant the larger sum, notwithstanding the opposition of the Chancellor of the Exchequer, who, he said, from his office, was bound to be sparing of the public purse, but who would not be displeased to find himself overborne by the general sentiments of the House, of the country, and of the world.

Mr. Whitbread then started up, and said:
 “ I find myself called upon to add a few words,
 “ lest the objections that were made should
 “ damp the intended liberality of the House.
 “ The Committee should bear in mind the dis-
 “ interested conduct of Dr. Jenner; who, ac-
 “ tuated by principles of beneficence, scorned
 “ to monopolize Vaccination; though by that

“ means, he could easily have realized a far
 “ greater fortune than the amended motion can
 “ confer.

“ I call upon the country gentleman to vote
 “ for the larger sum, because this discovery
 “ hath furnished the means of lessening the
 “ poor rates. For, the consequence of diminish-
 “ ing the Small Pox, that scourge of the human
 “ race, must be, that there will be less affliction
 “ from disease, and eventually less poverty ;
 “ and consequently the burden of the poor rates
 “ will become lighter. This reasoning is cor-
 “ roborated by the papers before us ; where we
 “ find that ulcers, and various scrofulous com-
 “ plaints, were common after the Small Pox, but
 “ that no such evils are produced by Vaccina-
 “ tion. This invention, therefore, not only pre-
 “ serves the health of the poor, but keeps money
 “ in the pockets of the rich. From which con-
 “ sideration Dr. Jenner is particularly entitled
 “ to the support of the landed interest. This
 “ narrow view of the subject is all that is left
 “ me ; for several Gentlemen, particularly my
 “ Noble Friend, have anticipated me, in dis-
 “ cussing the question philosophically, and have
 “ depicted this blessed improvement of the
 “ science of medicine in the most glowing
 “ colours. I also wish to guard the Committee
 “ against any expectation of this disquisition
 “ being renewed. This is the moment to reward
 “ Dr. Jenner ; and let not the opportunity slip ;

“ nor let us, when liberality is called for, think
 “ only of economy: that which is called eco-
 “ nomy in this case, would, if adopted by the
 “ House, be disgrace.”

Mr. Fuller, Mr. Baring, Admiral Pole, and Mr. George Rose, junior, all spoke in succession in favour of the amendment; and at length the House divided upon the question, that twenty thousand pounds should be granted to Dr. Jenner: sixty votes were in favour of this sum, and forty-seven against it. Thus the amendment was carried against the Minister by a majority of thirteen.

CHAP. X.

VACCINE INSTITUTIONS.

IN the preceding discussions, the regular succession of events has been in some degree sacrificed to preserve unity of matter: and it now becomes requisite to revert to transactions which commenced previously to the Parliamentary inquiries.

It was soon perceived, that the extension of the new practice was much retarded by the want of a constant and convenient supply of vaccine lymph. The voluntary distributions of a few patriotic surgeons, was at first the principal source; for the equivocal institution founded by Dr. George Pearson, was conducted on so mercenary a plan, that it could be of little use. In order to obviate this impediment, Dr. Jenner resolved to establish a Vaccine Society upon different principles; and to place the medical department under the direction of the most eminent professional gentlemen in London. Accordingly, in the year 1803, proposals to that effect were printed and circulated. The plan met with most distinguished approbation; for the King, Queen, and every British Prince and

Princess, accepted the title of patrons and patronesses; and multitudes of the nobility and gentry became members of an Institution, which by unanimous consent was denominated the Royal Jennerian Society.

In a country where charitable foundations have often been richly endowed by individual merchants, it must excite surprise, that the funds of one so illustriously patronized, should have been scanty. This inconvenience was to a certain degree compensated by disinterested offers of services from a number of surgeons. A house was then taken in a central situation, for conducting the business of the Society; and, unfortunately, Dr. Walker was appointed, with a competent salary, the resident vaccinator. Twelve other stations were established through the town, the duties of which were executed by surgeons, who accepted no remuneration: at these places Vaccination was performed on all applicants, and lymph was distributed gratuitously: for the regulations were most liberal, and the medical offers, generous to excess. But such a plan is not calculated for duration. It cannot be expected, that those who subsist by a profession, should devote a constant portion of their time to unrecompensed labour. Zeal will relax; and profitable calls will interrupt the regular discharge of eleemosynary duties. From these causes, the business of some of the stations, after

a time, declined : yet in others, the attendance was regular ; great numbers of the poor were annually vaccinated ; and the surgeons were rewarded for their assiduity by their internal feelings alone.

This subscription society, like most others of the same kind, was defectively organized, and could not maintain a sufficient control over the executive officers. Yet, as Dr. Walker was a professed Quaker, it was to be expected that his ways would be those of peace, and of passive obedience. But, on the contrary, a spirit more than Roman, moved him to despise arrogantly all obedience to those above him, and to trample contumeliously upon those beneath him. Complaints of this conduct were soon made, quarrels ensued, and the house established by philanthropy was in an uproar. Committees and general meetings of the subscribers were frequently assembled to compose these differences, but in vain ; for the high-minded Quaker dissented from the opinions of Dr. Jenner, disobeyed the medical regulations of the Society, and published openly a mode of practice different from that which he was instructed to follow. His method of taking lymph was to cut open the vesicle, and to wipe out the contents with lint, in order to procure the fresh secretion. This harsh treatment of infants was the reverse of that which he was directed to em-

ploy ; and as he was unalterable in his resolutions, it was at length deemed requisite to remove him.

But in a numerous society, imperfectly regulated, and whose government was purely democratic, such a measure could not be effected without a violent struggle. Some of the subscribers were chiefly influenced by tenderness to the children who were to be vaccinated, and by a sense of public duty : while others were actuated by compassion to Dr. Walker, and the entreaties of his friends. As the contest proceeded, cabals and the spirit of party arose, and many contended only for victory.

Though the question was completely foreign to polemics ; yet the religious professions of the subscribers seemed to influence their votes ; for a great majority of the Episcopalians, Dissenters, and Freethinkers, agreed in the deposition of Dr. Walker ; but the Quakers were the staunch supporters of a delinquent of their own sect. In this beneficent Society, they were even at first somewhat numerous ; and many others of this persuasion had latterly hastened to subscribe ; whose charity was simultaneous with the perilous condition of Walker. At all general meetings their broad-brimmed hats shaded the boards ; for their schismatic assiduity was most conspicuous, though their primitive meekness was indiscernible. In support of their friend, they

argued sily, wrangled tumultuously, and voted almost unanimously. Yet, in spite of this contentious pertinacity, the turbulent Quaker, on the motion of Dr. Jenner, was dismissed from his office, and peace was restored.

On this discomfiture, the vanquished party, instead of submitting with Christian resignation, seceded in a fury from the Jennerian Society, new-modelled another, which they named the London Vaccine Institution, and placed at the head of it Walker their champion. The subscriptions of these seceders being inadequate to the support of the institution, schemes were immediately set on foot for drawing in the wealthy of every persuasion. Perambulating petitioners, well versed in the art of awakening charity, were sent through the town; and the allowance of a per-centage so quickened the zeal of these seekers of money, that it was hardly surpassed by that of the old puritan seekers of the Lord. Their method of proceeding will be explained by the following anecdote.

A Noble Duke one day informed me, that he had just acceded to what he was sure would be very agreeable to me. He then related, that, on that sultry day, a steaming, squab, broad-faced man, in a Quaker's garb, with his hat on his head, had entered his room, saying, "Friend, " I am come on a charitable mission to request " your mite." The Duke, amused with the oddness of the salutation, desired him to be seated,

and to explain his business. The Quaker being quite prepared, wilily suppressed all mention of the disputes in the Jennerian Society, and of the dismissal of Dr. Walker, which were the causes for soliciting this subscription ; but prolated tediously on the utility of Vaccination ; and, by awkward encomiums on Dr. Jenner, led the Duke to believe, that the subscription was solicited for a society patronised by him. This cunning and prolix harangue drew forth the Duke's purse, which the Quaker spying, unrolled his list, and added His Grace's name a useful decoy for others. Having attained his object, he mercifully got up, saying, " Friend, " fare thee well ;" then turning his back courteously, strutted out with an uncouth gait, and an air of uprightness. By such artifices a large subscription was raised from those who prefer paying to inquiring ; for personages who have nothing to do, are sometimes liberal of their money, but always parsimonious of their leisure. In the mean time the Jennerian Society diminished in numbers, and, undermined by calumnies, declined, and another false step at this crisis completed its downfall.

It was requisite to elect without delay a resident medical officer ; and a young Irish surgeon, unprovided for, started up as a candidate. He was intimate with a learned physician of great weight in the Society, who possessed many esti-

mable qualities ; but was so warmly attached to his friends, that he was blind to their failings. From this weakness he yielded to the solicitations of the youth ; and, as the duty was light, he recommended him as a person qualified for the office. This candidate was successful in his canvass, for he was prepossessing in his address, and in every thing the reverse of Dr. Walker. But all extremes are disqualifications. The new Vaccinator was jocund and volatile, and fancied himself a poet ; though his faint inspirations were only produced by the bewitching juice of the little western flower called love in idleness. He hated the trammels of business, and always had a ready gibe to flout at order. So, when mothers brought their children early in the morning to be vaccinated, he was sometimes fast asleep ; and when they carried them late, he had perhaps strolled abroad. Even when seated seriously at home, the drudgery of registering cases was apt to be postponed, while he was listlessly rhyming a piteous sonnet to his sempstress. Such a character was far from irreclaimable ; but the Vaccine might have languished long, and the Small Pox might have made wasteful havoc, before the boiling spirits of this juvenile Hibernian could be cooled down to the medical point. Jenner often communicated to me his distress confidentially, for I had long sympathized with him in all his troubles. It

was evident that a Society thus conducted could do but little good ; and that, if more efficacious measures were not pursued, the Vaccine could make but slow progress against an unceasing opposition. I therefore suggested, that, instead of trusting any longer to a subscription society, which had been found replete with difficulties, he should endeavour to make the business of Vaccination a national concern. With this view, the President of the College of Physicians should be consulted, and a proposal made to him to combine in an application to Government to erect an establishment under the control of the Colleges of Physicians and Surgeons of London, Delighted with this scheme, he assembled some of his most faithful coadjutors ; who, after a few sittings, drew up a digested plan for such an institution. This was carried by Dr. Jenner to Sir Lucas Pepys, the President of the College of Physicians, who warmly approved of it, and agreed, in conjunction with Dr. Jenner, to lay it before Administration.

Mr. Perceval was Prime Minister ; but this business was chiefly managed by Mr. Rose, Treasurer of the Navy, who undertook to bring the proposition before Parliament. Accordingly, in the House of Commons, on the 9th of June 1808, he caused the various votes which had passed on the Vaccine to be read ; and then moved as a resolution, with a suitable preamble,

“ That this House is of opinion, that great public
 “ benefit would be derived from the establish-
 “ ment of a central institution in London, for the
 “ purpose of rendering vaccine inoculation ge-
 “ nerally beneficial to His Majesty’s subjects, to
 “ be superintended by a certain number of the
 “ Royal College of Physicians and of the Royal
 “ College of Surgeons in London, and by such
 “ persons under their direction as they shall
 “ think fit.”

Mr. Rose supported this motion chiefly by the following reasons. He observed “ that
 “ the Jennerian Society was in a declining state,
 “ and quite inadequate for the extension or
 “ support of the Vaccine. The public at large
 “ were, therefore, at a great loss for a regular
 “ supply of pure lymph, and that much mis-
 “ chief had arisen from vitiated lymph, and
 “ from the ignorance of inferior medical practi-
 “ tioners. It was therefore an object of serious
 “ importance to place the superintendence of
 “ Vaccination in the hands of the most eminent
 “ professional gentlemen in the kingdom, who
 “ would enlighten the rest, preserve the lymph
 “ in perfection, and diffuse it over the whole
 “ empire.” He concluded with remarking,
 “ that the advantages resulting from such an in-
 “ stitution were incalculable, and he conceived
 “ that the expense would not exceed 3000*l.* a
 “ year.”

This resolution was applauded by several members, particularly by Lord Henry Petty, who was a lover of science ; and though engaged in keen hostility to the Cabinet, ardently supported this ministerial scheme. But not so Sir Francis Burdett, the invariable opponent of men in office, and whose physician was Dr. George Pearson. Whether he afforded any assistance, can only be surmised ; but, as demagogues resemble courtiers in candor, Sir Francis picked out from the papers on the table of the House some of the charges which had been laid against the Vaccine, and omitted their refutation. The proposal in question was only to grant to the poor the means, if they chose to use them, of preserving their families from the Small Pox. Yet, even a gift, when proffered by Government, was opposed by the idol of the mob ; who, by striving to reject this boon, augmented his popularity. For, though the sophistry of his speech revolted his enlightened hearers ; yet it coincided with the prepossessions of his vulgar readers.

“ The Vaccine,” he said, “ now presented
 “ itself with a different complexion from that
 “ which it had assumed originally. It cannot
 “ be forgotten, that a very short time ago we
 “ were told it was proved, that this system of
 “ Vaccination was almost infallible ; and one of
 “ the great advantages of the system was

“ stated to be, that the practice was so simple,
 “ that any old woman in the country might
 “ with safety vaccinate ; but now, unfortunately,
 “ the business wears a very different aspect ; and
 “ the partisans of the system acknowledge, that
 “ it is a very nice operation, requiring great
 “ judgment and skill : the want of which is as-
 “ signed as the cause of the many failures which
 “ have occurred. So, we find there is neither
 “ that simplicity, nor security, which was ori-
 “ ginally held out to this House, and to the
 “ country. Now, considering those failures, it
 “ appears to me very dangerous to be hold-
 “ ing out any flattering hopes to the public,
 “ by a vote of this House in favour of that
 “ which appears to be a failing experiment : we
 “ ought to be cautious, lest we fall into a pern-
 “ cious error. Government have not the power
 “ in this, as in other countries, to compel people
 “ to submit either to prescriptions of physicians,
 “ or to operations of surgeons, or to any thing
 “ else except the laws ; and I doubt much whe-
 “ ther any science is likely to be much benefited
 “ by being placed under the care of Govern-
 “ ment. As to this particular subject, there
 “ have been so many instances of failures, that
 “ the utility of the system may, perhaps, be
 “ doubted ; for we may set down the number of
 “ failures to be double that which we have heard
 “ of. This may be the more suspected, from a

“ spurious complaint being mentioned, which I
 “ do not understand. It appears to me a mere
 “ shift, a mere get-off; because that is, or is not,
 “ a disease; and there is no other criterion, but
 “ that of a disease following, or not following
 “ Vaccination, by which we can judge of Vac-
 “ cination. As to the College of Physicians,
 “ they have given no opinion upon the matter:
 “ they have only reported the result of that evi-
 “ dence which was laid before them. Now, as
 “ to an opinion upon evidence, there needs no
 “ application to physicians for that purpose;
 “ this House is, I hope, as able to judge of evi-
 “ dence, as they are. For all these reasons I
 “ should very much prefer a Committee of In-
 “ quiry to any legislative measure whatever;
 “ and I should hope this resolution would not
 “ at this moment be pressed.”

Mr. Wilberforce pleaded warmly, as he was
 wont, for the cause of benevolence; and Mr.
 Rose, in reply to the assertion, that the College
 of Physicians of London had given no opinion,
 read extracts from their Report, in which that
 College, and those of Edinburgh and Dublin,
 all expressed their decided approbation of Vac-
 cination. Notwithstanding this, Sir Francis
 Burdett persisted in dividing the House; and it
 appeared that there were four other members of
 his opinion. From this division, some notion

may be formed of the proportion of gentlemen who were inimical to Vaccination.

After the above vote passed in Parliament, a communication was made to the College of Physicians by Lord Hawkesbury, the Secretary of State for the Home Department; and by the King's authority, the National Vaccine Establishment was instituted. The Board, composed of the President and Censors of the College of Physicians, and the Master and Governors of the College of Surgeons in London, assembled Dec. 28, 1808, and proceeded to business. Dr. Jenner was first elected Director; and as he resided in the country, by his recommendation, the author of this work was chosen Assistant Director. But an unfortunate misunderstanding arose between Dr. Jenner and the Board, which I in vain strove to compose. In consequence of which, Dr. Jenner declined the office of Director, and I was nominated in his stead. The duty of the Director was to superintend the practice, and to undertake the correspondence, and drawing up of papers upon all important points. Seven surgeons were appointed, and as many stations established throughout London for vaccinating all who should apply, and for collecting and distributing vaccine lymph to those who wished for it; and subsequently the number of these stations was increased. A body

of instructions was next drawn up by the Director, who consulted Dr. Jenner upon this important point. This was reviewed and published by the Board; and, being sanctioned by such authority, was generally considered as the standard of practice. From an arrangement made with Government, all correspondence with the Board on the business of Vaccination was exonerated from the expense of postage, which was of great importance; and medical men in every part of the kingdom, when in want of vaccine lymph, had only to write to the Establishment; and they usually received a supply by return of post. Peculiar events in practice, such as doubtful cases, suspected and real failures, and other contingencies, were frequently referred to the Establishment; and the answers which were sent, explaining satisfactorily most of those cases, tended greatly to allay prejudices, and to justify the Vaccine. At first the applicants for Vaccination at the various stations were not numerous, not amounting to 3000 in the year; but by continued exertions, and the declension of prejudice, the numbers regularly increased; and in the year 1816, 7771 persons were vaccinated in London by this Establishment alone, and 44,376 charges of vaccine lymph were distributed to the public.

The spreading influence of this institution

was extended not only to every part of the British dominions, but also to foreign countries: Great numbers of medical gentlemen applied to be enrolled as corresponding members; and a few honorary members, who were not professional, were also appointed. By all these persons great numbers were vaccinated; and each formed a point whence the Vaccine verged around his vicinage.

The Board drew up an annual Report for the Secretary of State, which was laid before the House of Commons. This contained a statement of the business effected, of the progress of Vaccination, and of such occurrences as were useful or remarkable. These Reports were printed by order of the House of Commons, and widely distributed.

From this time, all open opposition to Vaccination by regular practitioners greatly declined; and Small Pox inoculation was considered as the most deleterious species of empiricism. There remain, however, enough of inferior practitioners, who, despairing of rising to a respectable line of practice, accommodate themselves to the prejudices of the vulgar, encourage them, and covet the gains to be acquired by preserving afloat the variolous infection. These men continue to spread the Small Pox, and to raise perpetual rumours of the evils excited by the Vaccine.

The ignorance of a large portion of mankind renders this opposition by no means contemptible ; as the advance of an improvement cannot be very rapid, when all the veteran bands of Prejudice are artfully arrayed by Interest for a stubborn resistance.

CHAP. XI.

**THE VACCINE IS EXTENDED THROUGH THE BRITISH
DOMINIONS : SCOTLAND, IRELAND, THE EAST
AND WEST INDIES.**

THOSE who are best acquainted with the springs of human actions, will not be surprised, that Vaccination met with less resistance at a distance, than on the spot where it was invented. It was received with heart-felt joy in Scotland. The Professors of Edinburgh, in conformity with the brilliant reputation which the University has long maintained as a medical school, were impatient to investigate the properties of the newly-discovered lymph, which they soon procured from Dr. Jenner. Experiments were made, the preventive power was proved, and Vaccination established. The University of Glasgow, which now rivals that of Edinburgh in medical science, acted with equal zeal; and by the influence of these learned bodies, together with its intrinsic value, the Vaccine was in two years spread over Scotland. After a time, however, one croaking voice was raised to disturb the general concord. Mr. Brown, who was fretting in obscurity at Musselburgh,

published a book *, to maintain that the Vaccine only possessed the property of preventing the Small Pox temporarily : that in three years its influence declined ; and in five or six hardly any security against the Small Pox remained. These positions were attempted to be proved by much irrelative matter, and by a number of averred cases. But the latter were soon examined by some of the Surgeons of the College of Edinburgh, who published a flat contradiction of the facts. This was a decisive blow in Scotland ; on which he filled the London newspapers with his alarming lucubrations, until the editors grew tired of printing them. In this extremity, he wrote to the Secretary of State a scurrilous accusation of the National Vaccine Establishment ; which was referred to their Board. When they met, the Registrar read it, and then tied it up with red tape among that mass of papers which are consigned to rest. The adoption of Vaccination, and relinquishment of variolous inoculation, in Scotland, had the effect of diminishing greatly the mortality by Small Pox ; but it was found impossible to induce all to employ the preventive ; for apathy respecting distant evils prevails among the commonalty over the world.

Ireland being separated by the sea, was rather

* An Inquiry into the anti-variolous Power of Vaccination. By Thomas Brown, Surgeon, Musselburgh. 1809.

later in receiving the Vaccine ; yet the practice commenced at Dublin in March 1800 ; and being attended with success, was warmly espoused by the medical colleges of that city. It was retarded at first by a circumstance which ultimately tended to its advancement. Variolous inoculation was formerly patronized in Ireland by the Popish Clergy, and had, therefore, been much more generally adopted by the common people, than in any other country. The degree of security which this afforded, rendered many unwilling to try a new plan ; but the medical profession gradually became sensible of the superiority of Vaccination ; they convinced the priests, who employed their influence to substitute vaccine lymph for variolous pus.

In 1804 a vaccine institution was established at Dublin under the patronage of the Lord Lieutenant ; whence lymph was diffused over all Ireland, and variolous inoculation was in a great measure discontinued.

It is painful to be obliged to acknowledge that the Vaccine, though early introduced into Jamaica and the West Indies, was long much neglected in those colonies. It reached Jamaica in January 1801 ; and, by the exertions of a few surgeons, a considerable number of negroes were quickly vaccinated ; yet, notwithstanding this successful commencement, the infection was soon lost ; and those who wished

to employ it were constrained to send repeatedly to England for lymph. Similar remissness occurred in several of the other islands, which was quite unexpected. For, in Europe, inertness occurred chiefly among the lower orders; but in these islands the labourers are slaves, whose inclinations are out of the question.

The year 1806 was distinguished by an event of momentous concern to the numerous nations who inhabit the extensive districts of Guinea; and to an immense multitude of slaves, originating there, who are now spread over the continent and islands of America. At the beginning of that year Mr. Pitt died; and his colleagues immediately retired from office, yielding up the government of the country to Mr. Fox. Soon after he had formed his administration, although he was embarrassed with the threatening condition of public affairs, and in a declining state of health, yet he introduced the memorable Bill into Parliament for the abolition of the Slave Trade. This measure, which for eighteen years had been successfully resisted, being now supported by the whole power of Government, was easily carried through the House of Commons. But in the month of September, before this Act could be passed into a law, Mr. Fox closed his life. The Bill was, however, vigorously pushed through the House

of Peers by the Lords Grenville and Grey ; who became the leaders of Administration : but in every stage it was pertinaciously and virulently opposed. And, even after the Bill had passed both Houses, as it was known that the ministry were about to be dissolved, a fear was entertained to the last of a negative being interposed. But this apprehension proved groundless ; for, on the 25th of March 1807, a commission having previously been obtained for that purpose, the royal assent was pronounced by Lord Erskine, the Chancellor ; after which ceremony, the seals of the respective offices were all surrendered to the Crown. Thus the Grenville administration was concluded by the ratification of a law which had long been earnestly solicited by the friends of humanity, and vehemently urged forward by the lovers of liberty. It might have been expected that this measure would have awakened the attention of the West India proprietors to the Vaccine, in order to preserve that portion of their slaves which were annually swept off by the Small Pox. But human reason can rarely predict human conduct : for, whether it proceeded from interest being a weaker motive than paternal love, or from the planters expecting a supply by the smuggling trade ; the Vaccine undoubtedly made slow progress in these countries. At last, in the year 1814, the government of Jamaica

took up the business with some energy, and established a Vaccine Institution, for preserving and distributing the invaluable lymph. Should the other West India islands, prompted by mixed motives of humanity and interest, adopt a similar plan, and extend Vaccination to the whole negro population, the Small Pox must cease in those countries.

The ignorance of sure methods of preserving vaccine lymph in hot climates for any considerable time, occasioned many failures in transmitting it to India by sea; but this was at length effected by land, through successive stages. So early as the year 1799, Dr. Jenner sent vaccine lymph to Hanover, and nearly at the same time it was conveyed to Vienna; where, by the patronage of Dr. De Carro, the Vaccine was propagated extensively through the Austrian dominions. Towards the latter end of 1800 *, a packet of lymph from De Carro reached Constantinople, with which the son of Lord Elgin, the British Ambassador, was successfully vaccinated; and a few Turkish parents were induced with difficulty to assent to their children undergoing the same operation, England was

* The Medical and Physical Journal for March 1801. Treatise on the Cow Pox, by John Ring, Surgeon, &c. vol. ii. p. 453, 546, 910, &c. An Account of the Introduction of the Cow Pox into India, by George Keir, M. D.

now enabled infinitely to overpay Turkey, by an improved species of inoculation, for that method which had been thence acquired eighty years before. But in that fine country the human mind, deeply imbued with prejudices, cannot conceive that any thing unknown to their ancestors, and untaught by the Koran, can be advantageous. In spite, therefore, of the exertions of an English physician, the Vaccine was soon lost there; and although he had previously transmitted to Bombay a bit of rag soaked with lymph; this and many other attempts failed. But the zeal of Governor Duncan, who presided in that government, and of Lord Elgin, did not relax by these disappointments. A fresh packet of lymph reached Constantinople from Vienna, and was immediately transmitted by the Ambassador, to Bagdad. This fortunately succeeded in the hands of Dr. Short, physician to the English resident. From Bagdad, it was next conveyed to Bassora; where Vaccination was commenced by Mr. Milne, the surgeon of the British Consul. This gentleman was so unremitting in his exertions to transmit the Vaccine to India, that he sent between thirty and forty parcels of dried lymph to different surgeons by various ships. But failure followed failure; at length, in June 1802, a number of trials being made at Bombay with the last of those parcels, after a few days a vaccine

vesicle appeared to arise on the arm of Anna Dusthall, an East Indian girl. Although the surgeons knew the Vaccine only by description, yet they recognised the genuine disease; and carefully seizing the opportunity of preserving it, they inoculated from this source five other children, who took the infection regularly. All the medical gentlemen of the Presidency witnessed these facts with the utmost satisfaction, and multiplied Vaccinations. The preserving lymph was quickly transmitted by sea to Cannanore, Calicut, and the island of Ceylon *, and thence to Madras † and Bengal.

The cold and negligent reception which the Vaccine met with in the West Indies, was a strange contrast to the ardent and virtuous welcome with which it was hailed in the East. These opposite feelings were not manifested by the negroes and native Indians; but by the British, who have emigrated to these opposite points of the globe. This moral difference may perhaps be attributable to their different occupations. The chief business in the Caribbee Isles is the super-

* An Account of the Introduction, Progress, and Success of Vaccination in Ceylon, by Thomas Christie, M. D.

† Correspondence for the Extermination of Small Pox, by James Anderson, Physician General at Fort St. George, Madras. 1804.

intendence of slaves, whether employed in the labours of the field, or in manufacturing its produce: whereas, in the East Indies, the British are engaged in political, military, and literary pursuits, which expand and elevate the mind.

The empire of India was at that period governed by a statesman, whose genius overthrew the Mahometan government, and rooted up those noxious Gallic weeds, which had been insidiously sown there by the long hands of Napoleon.

Lord Wellesley also quickly perceived the importance of the Vaccine, and supported the medical gentlemen in all their exertions. Being aware that enthusiasm soon declines, and that interest quickens benevolence, he appointed at Calcutta * a surgeon, to be Superintendant-General of vaccine inoculation, and stations were established through all the provinces under the British authority. By this decisive measure, the Vaccine was soon extensively disseminated, and no British professional man raised an obstacle to its progress. Obstructions to these salutary schemes were however raised, and from the same causes which operated in Europe. The poor displayed the same, or greater apathy towards warding off a remote evil; and their

* Report of the State and Progress of Vaccination in Bengal in 1804, by John Shoolbred, Superintendant General of Vaccine Inoculation at Calcutta. 1805,

perverted ignorance rendered them prone to be deceived by the Bramins, who had long been inoculators of the Small Pox. It was customary, when inoculation was performed, to make a slight offering to an idol; which, of course, passed through the hands of the priests. When Vaccination was performed, no similar oblation was presented, and, notwithstanding all worldly pursuits are relinquished by the Bramins, this privation kindled their animosity. They instantly employed a number of artifices, dissimilar to those played off by the English anti-vaccinists, but consonant to Eastern prepossessions. It was boldly asserted by many of that cast, that the Vaccine could answer no good purpose*, because none of the water of the Ganges was mixed with it; and all knew, that, without this addition, even Small Pox inoculation was ineffectual.

Independent of this devout declaration, they propagated a hundred rumours. It was spread abroad, that British surgeons had a thirst for blood, and collected together numbers of children, to take a little from each; and when they had filled a tea-cup, they drank it off; but, so far from the children being thereby preserved from the Small Pox, if proper antidotes were

* Report, &c. by Mr. Shoolbred, p. 10, 12, 16, 23, &c.

not applied, which the Bramins alone were acquainted with, all of them would soon perish, or at least be smitten with a dreadful disease. One other report is noticed of a still more terrific kind. The Vaccine was libelled as containing the seeds of the plague, which would break out in three or four years; and was a contrivance of the English to exterminate the native Indians. This annunciation was said to have gained great credit amongst the people, in consequence of a persuasive question, with which it was supported. Why, it was asked, would Government take so much trouble, without having an object in view? The Governor General confuted this interrogative argument by a measure more prevalent than the most apt reply, which fully convinced the Bramins of the virtuous designs of the British Government. Parsimony, where a great object was in view, was never laid to the charge of Lord Wellesley. On this occasion a number of the principal Indian inoculators were sent for to Calcutta, and an inquiry was made of the amount of their gains by their practice. This proved to be a mere pittance; on which double the sum was proffered them*, with the slight stipula-

* Report by Mr. Shoolbred, p. 39. This Author, from delicacy, only hints at the reward, which is stated on undoubted private information.

tion, that they should adopt and recommend Vaccination, in preference to variolous inoculation.

All readily acceded to the conditions, and in consequence attended regularly the office of the Superintendant General of Vaccination, to witness and to be instructed in the process. They were also permitted to vaccinate, as soon as they appeared competent. This incitement induced other native inoculators to appear unsolicited at the same office, and to profess their willingness, upon similar terms, likewise to propagate the vaccine, instead of the variolous inoculation. These voluntary applications were received with proper encouragement: all who chose were taught, and trials were made in their presence, which evinced the preventive power of the Vaccine. A declaration was then drawn up, expressing the facts which had been seen, and recommending Vaccination to all ranks of Hindoos. This was signed by twenty-six Indian inoculators, published in the Calcutta Gazette, in four Eastern languages, and diffused through the whole Peninsula. After this the Vaccine was rapidly extended as far as Persia.

Few countries appear to have suffered more from the Small Pox, than the island of Ceylon. A respectable writer declares, the terror of

the inhabitants for this pestilence was so great *, that, when it appeared, husbands were wont to forsake their wives, and parents their children, leaving them only a little drink and food. When villages were thus abandoned, wild hogs, bears, panthers, and elephants, often issued from the woods and jungles; broke down the enclosures, and ravaged the gardens and orchards. Every sweet-smelling flower and esculent herb was rooted up; the plantain and coconut trees were levelled with the earth, the cottages unroofed, and not even the bones of the deserted sick were afterwards to be found. Dr. Christie †, a judicious physician, who resided many years in this island, states that the Small Pox, according to the most moderate calculation, carried off a sixth part of the population; yet no attempt was made by the Dutch Government to lessen this destruction. But in the year 1800, after their possessions on the coast were ceded to Great Britain, Small Pox hospitals were established for the admission of the infected, and of those who chose to be inoculated in all the principal districts. These esta-

* Description of Ceylon, vol. i. p. 253, by the Rev. Mr. Cordiner.

† An Account of the Introduction, Progress, and Success of Vaccination in Ceylon, by Thomas Christie, M.D. 1811.

blishments were superintended by medical officers, and provided, at a considerable expense, with whatever was judged requisite. Yet, in spite of all the attention which was paid, nearly one fourth of the patients who were casually infected, died; and one in thirty-three of the inoculated. This was the state of things in 1802, when Dr. Christie, the superintendant of these establishments, having heard of the virtue of the Vaccine, was most anxious to receive it from Europe, and searched among the cows of the island for this malady in vain. Dr. Jenner, who was strenuous in his efforts for the benefit of mankind, sent out packets of dried lymph repeatedly, both to Ceylon and India; but all failed. He also transmitted coloured drawings of the vaccine vesicle in all its stages. A plan was then concerted by him, under the auspices of Government, for transporting the infection by vaccinating in succession, a number of recruits during their passage by sea to Ceylon. But before this scheme was put in execution, the Vaccine, as was related, had reached Bombay. Dr. Scott, of that settlement, took the opportunity of a vessel sailing to Trincomalie to transmit some threads, well soaked in vaccine lymph, and enclosed in silver tubes, stopped with wax. This was done July 10th, 1802, and the packet having reached Trincomalie on the 11th of August, a surgeon immediately

attempted to vaccinate six children with these threads. One of the six fortunately was infected; and from that child, a succession of others were vaccinated, and the preventive was diffused through the island. The measures that were immediately recommended by Dr. Christie, and put in force by Governor North, were highly judicious. The Small Pox hospitals were suppressed, and variolous inoculation prohibited. The medical superintendants and overseers were ordered to propagate the Vaccine by every means in their power. All persons who presented themselves were vaccinated gratuitously, and the medical overseers made circuits to every village in their respective districts to vaccinate the people. Moderate allowances were granted for these duties; which expense was trifling in comparison with that incurred by the Small Pox hospital establishments. And in order to induce the natives to accede to this scheme, addresses in the various languages of the island were circulated to explain the utility of Vaccination.

These measures were so successful, that the natives flocked in crowds to the stations. Some of the surgeons vaccinated above a hundred in a day: and in two years the Small Pox was suppressed in three of the principal districts of the island. It continued, however,

to prevail for some time longer in the province of Jaffa, where a prepossession had been raised against the Vaccine, from an unfortunate error. Some Cinglese practitioners had produced, by inadvertence, a spurious malady, and had vaccinated many in succession with inefficient matter: several of these persons afterwards caught the Small Pox. The presence and authority of Dr. Christie, however, quieted the alarm produced by these sinister accidents. It was also requisite to overcome some secret opposition raised by those natives who formerly had subsisted by practising variolous inoculation; and besides, it was found, that as soon as the Small Pox was suppressed, the fears of the people vanished, and they neglected to employ the preventive. From these causes Vaccination was not universally adopted; and a few cases of Small Pox were occasionally breaking out in all the districts, the infection being introduced either from the Candian country, or from abroad. The Honourable Thomas Maitland, who succeeded Mr. North as Governor, resolved, in 1807, to finish this business. He issued a conciliating proclamation to persuade the people of the great utility of the Vaccine; fresh orders were sent to the medical and public officers to employ all their influence to prevail upon the inhabitants to adopt Vaccination, and to furnish them with provisions, when necessary, during the

process; and able vaccinators, with increased allowances, were sent to the places which required them. At length the Bramins submitted to Vaccination, who were the last persons to adopt this innovation of their ancient customs; and the remains of the Small Pox were happily extinguished in all that part of the island which then belonged to Great Britain.

It is superfluous to detail the transactions at the Cape of Good Hope, and the Mauritius; in which settlements, Sir John Cradock and Governor Farquhar, by similar measures, and with less difficulty, completely rooted out the Small Pox. These facts are decisive proofs of the reasonableness of the expectations which Dr. Jenner had formed from his discovery.

CHAP. XII.

THE DIFFUSION OF THE VACCINE TO FOREIGN NATIONS : TO GERMANY, PRUSSIA, RUSSIA, SWEDEN, DENMARK, FRANCE, SWITZERLAND, ITALY, SPAIN, NORTH AMERICA, PERSIA, AND AFRICA.

As, at the period when Dr. Jenner published his discovery, the intercourse of England with France and Holland was interrupted by war, GERMANY was the first foreign country to which the Vaccine was conveyed. Parcels of dried lymph were transmitted about the beginning of the year 1800*, to Hanover and to Vienna ; but, from philosophic prudence, the Vaccine met at first a cold reception ; as most of the physicians distrusted the accounts of this contagious virus possessing the singular virtue which was ascribed to it. Sufficient respect was however paid to the testimonies from England to institute trials of some lymph transmitted by Dr. Jenner : but an embarrassment was occasioned by another parcel procured from the corrupted

* Medical and Physical Journal for the years 1800, 1801, 1802. Treatise on the Cow Pox, by John Ring, Surgeon.

source at the London Small Pox Hospital, which excited eruptions. But this being remarked, the error was corrected, eruptive cases no longer occurred on the continent, and success removed all doubts of the utility of the discovery. It was under the auspices of the court physician and surgeon at Hanover that Vaccination commenced, who published the prosperous results: and the progress in Vienna was greatly accelerated by a disastrous epidemical Small Pox, which prevailed at that period. The dread of this disease greatly assisted Professor De Carro's exhortations to have recourse to the Vaccine, and the practice was extended widely.

In PRUSSIA the clergy united their efforts with those of the medical profession to diffuse this benign preventive. But notwithstanding the sedate character of the Germans, some slight medical opposition arose.

A Dr. Ehram *, of Frankfort, wrote against it; but both the composition of his work, and the act of suicide which he committed soon after, were strong presumptions of his insanity. A second work, something more sane, emanated from the pen of Dr. Hertz †, a Jew physician at

* Practical Journal, by Hufeland, vol. xii.

† Dr Marcus Hertz to Dr. Dohmeyer, on the Brutal Inoculation, &c. 1801.

Berlin ; who stigmatized the brutal inoculation from cows, and expressed an obdurate disbelief of all the facts written in the new books of the Christians, and a rooted antipathy to their doctrine. He concluded by prophesying temporal evils to all who forsook the ancient rites of their forefathers : which prediction was in two cases oraculously fulfilled.

A banker at Berlin requested Dr. Wolf, another Jew physician, who is said to have been the friend of Hertz, to vaccinate two of his children. Wolf pretended to comply with his request, but clandestinely substituted variolous pus for vaccine lymph : in consequence of which, both the children died of the Small Pox. The criminal prosecution which succeeded was probably of more advantage to the Vaccine, than De Carro's * refutation of Hertz's sophisms ; and as the King of Prussia soon after directed his children to be vaccinated, this had more effect than either. He also issued orders that Vaccination should be immediately employed in the army, and the new practice encountered no further difficulties. By which, and by the total abandonment of variolous inoculation throughout Germany, the Small

* Observations on Vaccine Inoculation, &c. by Dr. De Carro of Vienna, in the Medical and Physical Journal, vol. viii, 1802.

Pox rapidly declined ; and in a few years was extinguished in some of the largest cities, from whose purlieus, infectious diseases are expelled with great difficulty. Thus even in Vienna, where full four hundred persons had annually been destroyed by the Small Pox, this mortality diminished rapidly after the introduction of the Vaccine, and in five years absolutely ceased.

The medical profession were anticipated in RUSSIA, by the superior zeal of the Dowager Empress. This Princess, not possessing the feminine ambition of modern times, had never advanced as the glittering leader of modes and festivities, but had retrograded to the more austere virtues of the past ages. Her unostentatious excellence was not appreciated by Paul the Emperor, who treated her with caprice and harshness, to which her gentle spirit yielded submissively.

But the nation were not tractable under a series of vexatious and frantic acts ; a conspiracy was formed by some of the nobles, who entered the palace at midnight, and strangled the Emperor. The Empress, who slept in a separate apartment, was awakened by the tumult : she rushed fearlessly into her husband's chamber, then filled with the conspirators ; and loudly demanded to see him. They in vain strove to silence her exclamations, and to restrain her efforts. She persevered with en-

treaties; threatenings, and cries, until the conspirators being overawed, submitted; and showed her the lifeless corse. She threw herself upon the body, kissed the lips, and drenched the face with her tears. After pouring out this torrent of grief she rose up majestically, commanded the body to be raised from the ground, and placed on the imperial state bed. And the very men who had assassinated the Emperor, and who were then masters of the empire, yielded her obedience. This order being complied with, she watched the remains of her husband until the funereal rites were performed, according to her directions, with the accustomed solemnity and magnificence. When time, by its slow operation, had assuaged her own affliction, this beneficent Princess devoted the remainder of her life to alleviate the sufferings of others. She pitied, visited, and relieved the sick and the poor: she became the foundress of many charitable institutions, and the patroness of all; inspecting their management, regulating their economy, and correcting their abuses.

The Vaccine was a discovery quite congenial to her feelings; and accounts of it were carried in autumn 1801 to Moscow, where the court were assembled to celebrate the coronation of her son, the Emperor Alexander. His august mother kept aloof from the solemnities, re-

joicings, and redoubled intrigues of a new reign; but sent an urgent request to a physician at Breslaw, to transmit to her without delay vaccine lymph *. This was done, and an infant was successfully vaccinated by the surgeon of the Emperor. The name Vaccinoff, and a provision for life, were conferred upon the child; who was transported directly in an imperial coach to the Foundling Hospital, at St. Petersburg, as a source for future Vaccinations. The happy effects of the new practice being soon perceived, the Dowager Empress, equally generous and humane, wrote a letter to Dr. Jenner, complimenting him with delicacy, and testifying her acknowledgments to the person who had rendered so signal a service to the world. This letter, together with a valuable diamond ring, were transmitted to the discoverer, through the British ambassador.

Vaccination, under such patronage, spread prosperously to the remotest parts of the Russian empire; where population not only constitutes the power of the state, but the wealth of the landholders. It was therefore encouraged, both as a political measure, and as an agricultural improvement. For the Small Pox was a greater drain on Russian estates, than both

* Treatise on the Cow Pox, by Mr. Ring, p. 1009. Medical and Physical Journal for 1802.

the murrain and mildew ; and destroyed, as was calculated, one seventh part of the inhabitants. Several imperial Ukases were issued to excite the adoption of Vaccination, and the superintendence of the practice was most judiciously devolved upon Dr. Crichton, chief physician of the court. Surgeons for this duty were appointed by him in every province ; from whose reports it appeared that between the years 1804 and 1812, twelve hundred thousand persons had been vaccinated. The decrease of Small Pox having showed clearly to the Emperor the advantages of Vaccination, he gave orders, by a fresh Ukase, that every subject in the empire should be vaccinated. This decree met with little resistance, except from a small sect of fanatics in the eastern part of the empire, whose opposition arose not from their doubts, but from their conviction of the efficacy of the Vaccine. Their prevailing tenet is, that as wounds, diseases, and death are inflicted by Providence, it is an impious profanation to prevent these dispensations by the potent medical arts. These bigots, being insensible to reason, and inflexible even to an Ukase, were permitted to enjoy the exemption which they implored, of being allowed to remain susceptible of the Small Pox.

We now proceed to SWEDEN, where in modern times, in spite of the frigid climate and barren soil, botany flourishes; and which in past ages was warm with the love of liberty and fertile in heroes. The Swedish government has long been peculiarly attentive to the health of the people. In the year 1754, Dr. Schultz was deputed by the States of the kingdom to inquire into the English method of inoculating for the Small Pox. This physician, after a considerable residence in London, presented to the royal commissioners of health *, an excellent account of that practice †, which was immediately established by the authority of Government: and variolous inoculation became one of the most lucrative branches of professional practice. From this watchful solicitude for medical improvements, Vaccination was begun in Sweden, sooner even than in Ireland. For, before the termination of the year 1799, orders were issued by the Government to the College of Health, of

* A permanent board, partly constituted of Privy Counsellors and Nobles.

† An Account of Inoculation presented to the Most Noble Governor of the Princes, &c. &c. by David Schultz, M. D. translated from the Swedish, 1758. Report of the State of Vaccination in Sweden, included in the Report of the National Vaccine Establishment to the House of Commons in 1814.

which Dr. Shultz had become president, to investigate that subject with the greatest accuracy. The report of this learned body fully confirmed the excellency of the Jennerian discovery. And in 1803, a law was enacted, establishing Vaccination throughout the kingdom.

In support of this measure vaccine stations were appointed, and honorary and pecuniary rewards conferred by the Government on the most deserving; while at the same time the prejudices of the people were corrected by the exhortations and example of the clergy; and variolous inoculation, without a dissenting voice, was disinterestedly abandoned by the faculty of medicine. It is superfluous to add, that, by such a concurrence of virtuous exertions, the Small Pox was quickly suppressed in Sweden.

The mortiferous effect of this disease appears, however, to have been no less attended to by the Prince of DENMARK; although about the same period a danger more personal impelled him to reject the proffered friendship of Great Britain, and to accept the perfidious amity of Napoleon; by which submission he suffered more than he could have done by a magnanimous resistance. He was then incapable of maintaining a neutrality, from a deficiency of force; but, in aiding a power which was already exorbitant, there was a lack

of wisdom ; and, as is usual, the errors of their Prince brought calamities on the people.

Nelson, with a seaman's arm, struck the first blow. Cathcart was next commissioned ; who bombarded and captured Copenhagen, and brought the Danish navy to the Downs. Even these disasters did not correct the infatuated Dane : till at length the Crown Prince of Sweden, by an invasion of Holstein, conquered Norway, and dissolved the French alliance. It was with regret that these penalties were inflicted on the refractory Danes ; who now, repentant, are protected by the power, and the population of their remaining territories is augmented by the science of England. In the year 1805 * not a single child died of the Small Pox at Copenhagen.

The sanguinary war which raged between FRANCE and Great Britain, retarded the entrance of the Vaccine into the former country. But in the spring of the year 1800, hostilities having been suspended, previous to the peace of Amiens, an application for vaccine lymph was made by the Director of the School of Medicine at Paris. A packet was immediately transmitted ; which, from an excess of precaution, was inclosed in a phial filled with hydrogen gas.

* Pfaff im neuen Nord. v. Archiv, B. 1.

Presently an official bulletin, in the jargon of the day, was promulgated by the National Gazette *. (June 12, 1800.) “ 23 Prairial, 8th year of the French Republic, One and Indivisible. Upon the inoculation of the Vaccine.” After this preamble it was stated, that Vaccination had been performed on thirty children, nine of whom had taken the infection ; and that the operation had been repeated with recent lymph on a number of those who had not been infected by the dried lymph. Notwithstanding this lively commencement, the lymph was soon lost by mismanagement. But Dr. Woodville, having little to lose in England, set out for France on a vaccine adventure. He began to operate at Boulogne, and from that stock continued the practice at Paris. On his arrival, Woodville, who was a solemn taciturn Englishman, was overwhelmed with the adulatory phrases which the French lavish upon those strangers whom they wish to please. Crowds of professional and literary persons waited upon him, soliciting the high honour of his friendship ; he was very courteously pressed to vaccinate in public gratuitously, and a house was hired for that purpose. A

* The Medical and Physical Journal, for July, September, and November, 1800. Treatise on the Cow Pox, by J. Ring, Surgeon.

second bulletin next proclaimed the happy event, “ of France having now got Dr. Woodville, a “ learned man, animated with generous zeal, “ and meriting gratitude and praise. Already he “ had vaccinated six thousand children with in- “ variable success; for the prevention of the “ Small Pox is a kind of prodigy.” But neither advertisements nor hand-bills were needed by this vivacious nation: the news of this visitation of an English physician flew from mouth to mouth; for, though Rumour in France has fewer ears, she has more tongues, than in any other country. Men ran in haste to the vaccine station, and bared their arms for the lancet; while maids, and mothers with swarms of children, followed, expecting that preference which is there always paid to the sex. Notwithstanding all the surpassing civilities shown to Woodville, he was not bribed to make a long stay; and he returned, not enriched, while the empty compliments were ringing in his ears.

At this time the First Consul was pushing forward the negotiations for the peace of Amiens, to confirm his family on the throne of France; and the medical cajolements continued. An address was presented to the British Ambassador*,

* This curious morsel was preserved by Francis Moore, Esq. Secretary to the Ambassador, and sent to Dr. Jenner.

couched in that republican gibberish, which the First Consul had not then silenced.

“ LIBERTY.

EQUALITY.

“ Amiens, Frimaire 29th, tenth Year of the Republic.
(16th October 1801.)

“ From the Members of the Jury of Health,
“ and the Medical Committee of the Department of the Somme, to His Excellency the
“ Minister Plenipotentiary of England for the
“ Congress at Amiens.”

It was stated, “ that the Jury were constantly occupied with whatever related to the preservation of man, and consequently their attention was peculiarly excited by the Vaccine. Many trials had been made by them, and the discovery, unfolded in England, had been stamped in France with the seal of infallibility.” The immortal Jenner was then eulogised, and the detractors of Vaccination stigmatized, and accused of forging a hundred falsehoods. These opponents, although some of them are physicians, are declared to be unworthy of the honour of a refutation, as they have been stimulated neither by the love of truth, nor by the glory of physic, but by avarice. The address concludes by compliments to the Ambassador, and assurances that the French physicians consider themselves as the brothers

of those of England. This exquisite composition was signed by all the members, and pompously presented to the Marquis Cornwallis. Thus the negotiations for peace, and the commencement of Vaccination in France, were simultaneous, but their duration was very different. The Vaccine continued to be fostered from the innate love of life; but the peace was quickly broken from the superior passion for war. Although the Vaccine was applauded by every school of medicine of France, in lofty indigenous phrases; yet the idea of annihilating a lucrative disease was not universally pleasing to the faculty. There issued from that community more murmurings, calumnies, and falsehoods, than were sufficient to prevent the French physicians setting up a claim of superior disinterestedness to the English. Nor was there at first any direct check given to this opposition by Buonaparte, who still indulged the people with a slight semblance of freedom: besides, the support given to the Vaccine was more ostentatious than costly. The original vaccine station at Paris was founded by Citizen La Rochefoucault Liancourt*; and a committee

* Recueil Périodique de la Société Médicale à Paris. 1801. Les Essais et les Histoires de l'Introduction de la Vaccine en France. Par les Docteurs Colon, Moreux; et Fournier, &c.

of ardent medical citizens were appointed to superintend the practice. But this establishment was at first supported by voluntary subscriptions alone; a species of funds peculiarly precarious in France. For, though several of the princes and ministers placed their names at the head of the list, yet, notwithstanding this example, the subscribers in ten years only amounted to 110 persons *. Among the favourers of Vaccination was Lucien Buonaparté, Minister of the Interior; who, after having consulted the School of Medicine, adopted some measures for diffusing the Vaccine through France. The Prefect of the department of the Seine also declared himself the friend of the new practice, and established a vaccine hospital, where a medical committee transacted business. But these efforts were secretly undermined, variolous inoculation was practised, and the Small Pox cherished: some practitioners considering it as their lawful, inalienable inheritance. In the year 1802 they reaped a plentiful harvest; for that disease raged through France, destroying a vast number of people. This devastation had probably little influence on the lower orders, but it called forth the energies of Government. Buona-

* Collection des Bulletins sur la Vaccine, publiés par le Comité Central établi près de Son Exc. le Ministre de l'Intérieur. A Paris, de l'Imp. Royale. 1814.

parte's schemes demanded an unbounded population, and he was not of a temper to permit individuals, for their emolument, to lessen his military resources.

Accordingly, in 1803, a Report containing decisive proofs of the utility of Vaccination was presented to him by the medical committee. On which Mr. Chaptal, then Minister of the Interior, was commanded to employ the power and authority of Government to extend the practice. In the spring of 1804 he founded a society of the public functionaries united with men of letters and physicians, under the title of The Central Committee of the Vaccine, and instructions were given to institute similar committees in every department. Vehement reports were then circulated by the various medical committees; the *Moniteur* and other public papers resounded with the sentiments of Government, urging the nation strenuously to employ Vaccination; and the magistrates and the clergy became immediately active in this great object*. By these measures all opposition was soon quashed; for the shadow of repub-

* *Biblioth. Britanniq. des Sciences et des Arts, tom. ix. Mém. de l'Institut. Nation. &c. Sciences Mathem. et Phys. tom. v. Résultats de l'Inoculation de la Vaccine, par le Citoyen Valentin Nancy. 1810.*

licanism had then vanished, and none durst oppose the declared will of their despot. Even the Small Pox felt his power : it gradually declined throughout France ; and in 1809 the deaths by that malady at Paris had sunk to 213 in the year. Napoleon was, however, dissatisfied at so slow a progress. He wanted men, and knew that to preserve them at a trifling expense was economy ; he therefore resolved to put an end to that difficulty which impeded the completion of his work. And, on the 10th of May 1810, there issued from the office of the Minister of the Interior a fulminating Report from the Central Committee. The republican phraseology had been superseded by another, equally remote from simplicity, but conformable to Imperial Gallic pomp. It was signified, that His Majesty the Emperor and King had seen from the various Reports of the Central Committee, that the preservation and increase of his vast empire was immediately connected with the general propagation of the Vaccine. In consequence, His Majesty, wishing to give a signal mark of his paternal solicitude for his subjects, had granted to His Excellency the Minister of the Interior an annual special credit destined to provide for the expenses necessary for extending the new practice, and for forming collections of vaccine lymph in twenty-

four of the principal cities of the empire *. And His Majesty had also, from benevolence, appointed annual prizes, as powerful incentives to an emulation for extending the Vaccine, and to give a general impulse to banish that scourge the Small Pox, from his territories.

It soon became evident, that the voice of reason, the eulogies of learned societies, the exertions of the benevolent, the recommendations of the church and state, and even the commands of an emperor, were less effective, than the judicious application of a little money : for the Small Pox from this period diminished so quickly, that in 1815, when Napoleon had fled from the field of Waterloo, and English and Prussian troops garrisoned Paris, few traces of the Small Pox could be discovered, and not a patient was found in the hospital wards appropriated for that disease †.

In SWITZERLAND the commencement of Vaccination was most inauspicious ; for at Geneva twenty children were vaccinated in succession from a source produced by threads imbued with a spurious fluid sent from Vienna. The arms inflamed violently the first day, and fever occur-

* Among these were included Brussels, Florence, Parma, and Turin.

† Sketches of the medical Schools at Paris. By John Cross, Surgeon. London, 1815.

red on the second ; from which time the symptoms declined. Although Dr. Odier*, the attending physician, had never seen the Vaccine, he perceived that these effects were dissimilar to Dr. Jenner's description. He therefore prudently wrote an account of the occurrences, and requested from him a supply of pure lymph. Jenner replied, that those children had certainly not been infected with the genuine Vaccine, and therefore continued susceptible of contracting the Small Pox. This opinion was too fatally verified : for three of them, whose parents had absolutely refused to consent to their being re-vaccinated, died of the casual Small Pox.

The citizens of Geneva have long been distinguished for their love of literature ; and even the commonalty have a superior education to that of most other cities. Dr. Odier, therefore, after explaining the cause of these disasters, readily induced many of the enlightened inhabitants to assent to make trial of the lymph sent from England. Complete success attended the second experiments ; and the faculty of Geneva unanimously approving of the new practice, offered to vaccinate gratui-

* Mémoire sur l'Inoculation de la Vaccine, Par Dr. Odier à Geneva. Bibliothèque Britannique à Geneva. 1800. Un Traité historique et practical sur l'Inoculation de la Vaccine, Par Dr. Moreau. Paris, 1800,

tously all whose circumstances did not enable them to recompense medical attendance. The clergy of that city, who are remarkably exempt from prejudices, undertook to admonish all parents, on presenting their children for baptism, to have them vaccinated also. From Geneva the Vaccine was soon transmitted to Lausanne and Berne; and without enthusiasm, or the cogency of Government, but merely by the judicious and virtuous dispositions of the people, Vaccination was gradually extended through all the Cantons.

In proceeding to ITALY, where, after Gothic darkness, letters first revived, some despondency is felt on observing the vicissitudes experienced, even by knowledge. When the barbarians of the North massacred the instructed, consumed the libraries, and dashed to pieces the productions of art, the overthrow of literature was a natural consequence. But when the arts and sciences were established and flourishing, it could not have been apprehended, that without violence, in the midst of schools, academies, and universities, they should decay. Yet such declension occurred in Italy, both after the Augustan and Medicean ages. Still some sparks of genius, the reminiscences of ancient glory, occasionally break out; and the benumbing influence of papal superstition is less observable in Lombardy, than in the more southern states. It

was in the year 1800, that Professor Sacco, of Milan, became the apostle of the Vaccine in Italy. He in truth investigated the subject more fully than any English, German, or French physician; and found that the Vaccine was indigenous among the cows in Lombardy, and in Switzerland. At first he questioned the notion that this malady originated from equine virus; but, in a subsequent publication *, he retracted this objection, and stated, that one of his servants had contracted from a horse ulcers of a singular appearance on his hand; the matter of which he used for inoculation, and produced the true Vaccine, both on cows and children. Strong measures were adopted by the Milanese government for extending the Vaccine; proclamations were read from every pulpit; Vaccination was practised in every church; and the clergy gave such effectual aid, that the Professor and his associates in three years vaccinated 70,000 persons, and extinguished the Small Pox in Lombardy.

Philosophical innovations are seldom relished at Rome; and it was impossible that the Vaccine could be attended to there, when groaning under the insulting lash of France. Rome,

* Trattato di Vaccinazioni, con Osservazioni sul Giavardo e Vajuolo Pecorino del Dottore Luigi Sacco, &c. Milano, 1809.

degenerated Rome, had neither dared to offend, nor ventured to resist, yet was seized by a French detachment. The unresisting Pontiff was thrown into prison ; cardinals, nobles, and merchants, were plundered ; and the people were forced into the service of their enemies. From museums every curious rarity of nature was snatched away ; and palaces and churches were stript of every transcendent work, and fragment of art, which was portable. The ancient Romans had often gazed proudly at the spoils of conquered nations proceeding in triumphal procession to the capitol ; and their descendants have seen with oblique eyes long trains of wagons loaded with their silver, gold, jewels, vases, pictures, and statues, moving along the Flaminian way to be transported over the Alps, to adorn the palace of their master. At a time when the courtesy of civilized nations towards the vanquished was disregarded by the spoiler ; and when Rome, Florence, and Naples were enduring this last mortification, the evils from the Small Pox were little thought of. But Sicily was preserved from similar rapine, and acquired the Vaccine, through the intervention of the sea.

In the year 1800, when a British fleet and army were counteracting in the Mediterranean the boundless ambition of France, two eccentric doctors set out thither upon a vaccine adventure. Joseph Marshall and John Walker had, it is said, procured medical diplomas from

the indulgent university of Leyden; and, being low in fame and pocket, made application to Dr. Jenner, and obtained his sanction for a very useful project. By an application to the Admiralty, he got them a passage in a frigate, and they proceeded to Gibraltar, Minorca, and Malta, teaching and practising Vaccination: a more excellent work has rarely been performed by humbler instruments! Marshall, however, was not deficient in address; and as Lord Keith, the Admiral, had learned from home the good effects of the Vaccine, he permitted a trial to be made. It may be easily conceived that this proposal was at first little relished by seamen, a class of men peculiarly inconsiderate of futurity. But as Walker, one of the travelling preachers, had a strange appearance, uncouth manners, homely language, and unintelligible arguments, he made many converts in the fleet. The land forces were then commanded by Sir Ralph Abercrombie, who was steering his glorious, but unretraced course, to Alexandria. His strong sense led him to encourage Vaccination, which extinguished the Small Pox in that gallant army; too small to admit of diminution, when advancing to expel the French, who, with superior numbers, occupied Egypt.

In the spring of the year 1801, Dr. Marshall appeared at Palermo, which had become the constrained residence of the person who was then only titular sovereign of Naples, and

he instructed the court physician and surgeon in the practice of Vaccination. But they neglected, and soon lost, the lymph; for Æsculapius, together with the Muses, have long fled from Sicily; and since their departure, even Ceres languishes. An insipid listlessness now pervades this island, once renowned for fertility, poetry, and martial ardour. The shepherds no more contend in song; and the cavaleros, forgetful of chivalry, instead of rushing to arms, when menaced with subjection by rapacious enemies, indulged during the heat of the day in drowsy repose; and in the cool of the evening, serenaded with tinkling guitars their inflammable mistresses. Happily for both, a British army arrived to do their work, who drove back the invaders into the sea. And, as a portion of the same energetic spirit animated the medical department, the Vaccine was resuscitated, and spread by the British through Sicily, Malta, and the Ionian Islands, that the fortunate people whom they had rescued from conquest, might also be preserved from the Small Pox.

At the discovery of the Vaccine, SPAIN was governed by one of the three daughters of the illustrious Maria Theresa. In appreciating their characters, the Emperor Joseph was certainly not blinded by fraternal partiality; for he one day remarked, “J’ai trois sœurs : la Reine de la France est la moins folle, jugez des autres.”

They were all married in the pride of youth and beauty to kings ; all snatched from their husbands' hands the reins of government, and wantonly drove the chariots of the state ; and all became memorable examples of the superior rigour of destiny to those in eminent stations. The Queen of Spain was betrayed and imprisoned by an ally ; the Queen of Naples was deposed and banished by her son ; and the Queen of France was executed on a scaffold by her subjects. The crafty ally who dethroned a confiding queen was Napoleon ; although, to satisfy his augmenting demands, and to purchase his forbearance, she transmitted over the Pyrennees the ingots and jewels wafted from Mexico and Peru, and even braved the navy of England.

During this humiliating vassalage, but before she had been by stratagems enticed into his net, a Latin translation of Jenner's works was sent to Madrid. Several French books on the same subject followed ; and the Vaccine was favourably received and encouraged by the Government, beyond what could have been then looked for. Vaccination also was gradually introduced into Cadiz, Seville, Barcelona, and the principal cities of Spain ; and an enterprise was at length set on foot for extending the Vaccine, which surpassed all that had been done by the most energetic European sovereigns. The merit is chiefly due to Dr. Francisco Xavier

Balmis, Physician to His Catholic Majesty, a man of learning and talents, who, by persevering solicitations at court, obtained a commission for propagating the Vaccine in the Spanish American and Asiatic domains; and, to defray the expense, he obtained the rare and profitable permission of freighting a ship with a variety of goods, and of trading at every port he touched.

On the 30th of November 1803, he commenced his voyage from Corunna, accompanied by a number of medical gentlemen with subordinate commissions. Two-and-twenty healthy children were taken on board, that the Vaccine might be continued in the most active state by successive vaccinations; and, perhaps, no ship was ever freighted with so precious a cargo. Balmis first pointed his fortunate course to the Canary Islands; where he vaccinated a number of children, and left instructions for perpetuating the practice. He next proceeded to Porto Rico and the Caraccas, leaving at both a preventive for one of those poisons which three centuries before had been carried thither by the Spaniards. At the Caraccas the medical officers divided, for the better accomplishing the object of their mission. Don Francis Salvani was despatched to the south, and was shipwrecked at the mouth of the river de la Magdalena; the children and all aboard, however, got safe ashore, and reached Carthagená. After

establishing Vaccination there, Salvani crossed the isthmus of Panama, carrying the Vaccine to the south-west coast of America, and he diffused it among the interior provinces, and to Lima; Chili, and as far as Charcas. In the mean time, Balmis, the director, sailed to the Havannah, and thence to Yucatan. At this place the medical gentlemen divided again ; Professor Francis Pastor proceeded by land to Villahermosa in the province of Tobasco, propagating the Vaccine through the district of Ciudad Real de Chiapa, and onwards to Guatemala. While Balmis sailed to Vera Cruz, then traversed the Vice-royalty of New Spain, and the Interior Provinces, and returned to Mexico, the point of reunion with Professor Pastor. During the whole of these extended peregrinations, the Vaccine was planted in every province ; councils were instituted in the capital cities ; professional men were charged with the preservation of the sacred deposit, and made responsible to the king. The director next prepared to convey the blessed lymph to the Spanish possessions in Asia. For which purpose he crossed the continent, and travelled to Acapulco on the western shore of America. He then embarked with six-and-twenty children, to secure by successive Vaccinations, the preservation of the lymph in a voyage across the Pacific Ocean. His arrival at the Philippine Isles was hailed with transports,

and the captain-general gave every assistance in his power to extend the Vaccine to the furthest coast of Asia. The Archipelago of the Visayan islands was then at war with Spain ; but Balmis was a true disciple of Hippocrates, and in distributing the Vaccine, as in every other exertion of his medical functions, he considered the enemies and friends of his country, equally as men. Having at length reached the extremity of that empire in which it is boasted the sun never sets, he shaped his course to Macao ; and established the Vaccine both there and at Canton.

In returning to Europe, Balmis touched at St. Helena ; where, to his great surprise, he learned that the Vaccine had been positively rejected by the English settlers. But this Spanish physician, by relating his success, overcame their prejudices against the discovery made by their own countryman, and then returned to Spain.

Two years were nobly spent by this excellent man, in putting a vaccine girdle round the globe ; and it is an additional pleasure to have learnt, that, by trading during his circumnavigation, he acquired an easy fortune. He now enjoys at Madrid the distinction he has merited, and patronises the diffusion of Vaccination through the Peninsula.

The freedom that reigns in the UNITED STATES of NORTH AMERICA, is incompatible with unani-

mity ; consequently, the Vaccine had to struggle there with a long and violent opposition, which was not much allayed by the exertions of the President Mr. Jefferson, who patronised the new practice : yet by degrees it spread, and was introduced even among the Indian tribes. It was in the year 1799, that this important benefit was conveyed to the United States from Great Britain. Indeed, except the produce of the soil, what that is valuable, has that nation not received from this? Certainly their arts, literature, laws, religion, the model of their political establishments, and even their love of liberty. Yet, when Britain was hard pressed by Napoleon, who by furious and successful enterprise had forced the European nations into a league against her, the United States submitted to the threats and depredations of the tyrant, and joined their forces to enslave their parent country, the restorer and last shelter of liberty in Europe. American diplomatists have exerted much political subtlety to apologise for combining in this miscreated scheme, which would have been scorned and opposed by the virtuous Washington.

But let England forget this, and rejoice in being able to add the Vaccine to the other benefits conferred upon the Americans. And may our physicians continue to instruct them to cure and prevent the diseases of their country ; may our poets soften and delight them ; and,

above all, may our philosophers improve their dispositions ; and perhaps in a future age, their animosity will cease, and there will spring up in that country some filial gratitude.

Although commerce was the natural vehicle for the transmission of the Vaccine to distant countries, yet it was carried otherwise to PERSIA, an inland kingdom, hardly accessible to the trade of England. The opportunity of effecting this, proceeded from the most chimerical of all Napoleon's projects. It had floated in his brain, that, after the expected conquest of Russia, he could march an army in the steps of Alexander, through Persia to the Indus, and subjugate the whole of Hindostan. In preparation for this intent, and previous to his march to Moscow, intriguing emissaries were despatched to delude the Persian monarch. But to discover to him his danger, and to inspirit him to oppose the passage of a French army, Sir Gore Ouseley was sent in the character of a British Ambassador. The National Vaccine Establishment seized this occasion of transmitting vaccine lymph to Persia, with full instructions in the method of employing it *. And the Ambassador, soon after his arrival, despatched letters, signifying that the sons and daughters

* Report of the National Vaccine Establishment to Parliament for 1814.

of the Prince Royal, and upwards of fourteen hundred Persians, had been vaccinated, and that the practice was augmenting in Tehran, the capital of the kingdom.

AFRICA remains, and probably must long remain, in a great measure deprived of the preventive of Small Pox. The settlers at the Cape of Good Hope, and at Sierra Leone, are indeed happily regulated and protected by British laws and sciences. But the natives of this unbroken continent still continue either in a wild state of lawless ferocity, or enslaved and hardened by barbarous despotism. Thence their uncultured, undeveloped mental faculties, are only a little superior to those of the animals which range the deserts.

CHAP. XIII.

THE PRACTICE OF VACCINATION, AND THE
CONCLUSION.

THE facility of performing Vaccination, and the usual exemption from mischance, are apt to encourage neglect. But no surgeon, however hurried with business, ought to forget, that an oversight, apparently trivial, may possibly cost his patient his sight or life. Let all, therefore, rather err in excess of innocent precautions, than in the slightest omission.

The instructions of the National Vaccine Establishment of London were founded upon the experience of many, and improved by successive observations: they were drawn up after much consideration; and precautions inculcated, respecting those incidents which were remarked to precede failures. The success of these precepts is the reason for comprehending them in the practice about to be recommended.

The first consideration is, the time to be chosen for Vaccination. The exquisite irritability of a new-born infant, and the uncertainty of its organization being perfect, are sufficient

motives for usually deferring the operation until three weeks after birth. If the infant is then in health, the sooner it is performed the better. The presence of an acute or dangerous disease is obviously a strong objection to vaccinating; but slight complaints without fever, transient irregularities of the bowels, and fits of fretfulness from indigestion, or teething, form no obstacle to the operation. Children affected with the *crusta lactea* and herpetic eruptions sometimes cannot be infected with the Vaccine: and when they are, the infection has been suspected sometimes to proceed irregularly. Yet the trial may be made, for the operation never augments these eruptions; and should it fail, it ought to be repeated after the eruptions are cured. But when the Small Pox infection is at hand, this superlative danger overwhelms all other considerations; and every human being susceptible of the poison, without exception, should instantly be vaccinated. No scruples respecting infancy, old age, or diseases, should induce us to delay for a moment: for nothing can be put in competition with the risk of the variolous infection. So mild indeed is the Vaccine, that it does not perceptibly augment the peril of other diseases. For instances have occurred, in which, during the progress of the Vaccine, the Scarlet Fever or Measles have broken out; which proceeded with the usual

symptoms ; only the vaccine vesicles inflamed more, and became purulent ; the skin being stimulated by two morbid poisons at once. And when the Small Pox breaks out during the Vaccine, the variolous disease is generally mitigated.

Lymph for Vaccination should only be taken from a vesicle perfectly regular ; which is to be distinguished by the following description. A small red spot is formed, sometimes on the second, but oftener on the third day after Vaccination. It is slightly elevated, and, if examined with a lens, a red efflorescence is perceived. This little tumour enlarges, and on or before the sixth day a small vesicle is formed, whose regularly rounded edge is elevated, and the centre slightly depressed. It is at first of a pink colour, which changes to a pearly tint, slightly tinged with blue, the centre being rather darker than the surrounding parts. The vesicle is hard to the touch, and cellular ; the cells are filled with transparent lymph. On the seventh, eighth, or ninth day, the base appears surrounded with an inflamed ring, which spreads rapidly, and in one or two days becomes a florid areola of an inch, an inch and a half, or more, in diameter.

The vesicle is then at the height ; the areola is hard and tumefied, and continues for one, two, three, or four days : as it fades, it often forms one or two concentric circles. When the

vesicle declines, the centre first darkens, and the whole gradually changes into a hard smooth crust of a dark mahogany colour. This crust drops off spontaneously in the course of the third week, leaving a superficial cicatrix slightly indented by the cells of the vesicle. The commencement of the vesicle is seldom earlier, but often later, than has been described. The virus has sometimes lain inactive for one or two weeks; but if the subsequent stages are consonant to the above description, the vesicle is to be considered regular.

The inflammation of the Vaccine is phlegmohous, acute, and of the genus named by John Hunter, the adhesive inflammation; and, when regular, never passes into the suppurative stage.

The secretion which takes place is a transparent liquid, and a small quantity of coagulable exudation. By the latter, the centre of the vesicle, where the original puncture was made, adheres to the cutis underneath: and the interior cellular structure of the vesicle is formed by the same medium. After the vesicle is encircled by its areola, the lymph acquires a muddy serous colour, without deviating into purulency, and gradually thickens and desiccates.

It is usually found that the lymph is less infectious after the formation of the areola, than before: but many trials have proved, that the

regular Vaccine may be excited by the secretion of any period, provided the vesicle had neither been opened; nor its actions disturbed; and the same effect may be produced even by a vaccine crust dissolved in water. Therefore, while the vesicle is uninjured and proceeds in its due course, the lymph certainly preserves its specific quality; but should it be irritated, and any undue inflammation excited, rendering the secretion purulent, this is to be considered as vitiated and unfit for use.

If surgeons could find a constant succession of subjects, pure lymph in its early and most active state should always be employed; and Vaccination performed by transferring the transparent liquid directly from arm to arm. To obtain the lymph, the margin of a vesicle is to be very delicately punctured in one or two places; after a few moments, the lymph exudes in pellucid drops, and a little is to be taken up on the point of a lancet, and introduced slantingly into the skin of the arm, under the cuticle, until it touches the cutis. It should be retained there for a few seconds, and gently moved, that the lymph may descend to the bottom of the puncture. If a drop of blood oozes out, lest this should have washed off the lymph, it should be wiped away, and a little more lymph again introduced. This operation is usually performed with a common lancet: but one which

is fissured by a longitudinal slit, like a writing pen, succeeds rather better. The fluted needle employed in France, termed *l'aiguille canellée*, is a worse instrument than a lancet. But, whatever instrument is employed, if the operation is performed adroitly, and the slightest portion of vaccine lymph is left in contact with the living fibres, it rarely fails. Lancets whose points are well coated with dried lymph, succeed nearly equally well, provided they have not been kept more than two days. Beyond that time the lymph is apt to rust the lancet, and the operation to fail. When pointed quills or bits of ivory are well and repeatedly moistened with lymph, they preserve the virtues of the Vaccine for a long time. They are more certain, however, the more recent; but when wrapt in lint, and secured from air, heat, and moisture, they have sometimes continued efficacious for several months. In using these points the operation is more tedious; and if the subject is an irritable child, a good deal of impatience is often expressed. For it is requisite first to introduce the lancet under the cuticle, raising the superficies of the cutis. The blood, if any oozes out, is to be wiped away, and the vaccine point is then to be introduced into the puncture, and held and moved about for above half a minute. In withdrawing it, the flat surface should be

pressed against the cutis, that the dissolved lymph may be left in the wound; and the point should also be wiped upon the puncture.

Surgeons who are careless, or who lack dexterity, are often foiled in their attempts to vaccinate with these points; and frequently charge them with the fault. On these occasions the points, not having a fair trial, are seldom able to prove their innocence. Once, however, a country practitioner had thrice obtained charges of dried lymph from the National Vaccine Establishment, to vaccinate the child of a neighbouring squire. When they all failed, he swore that the points were good for nothing, and had certainly been prepared by some negligent block-head. The squire, who was a quiet observing man, took a pinch of snuff and said nothing; but he privately put aside one of the points out of the last packet. As soon as the surgeon was gone, he took out a lancet which he kept in his pocket-book for emergencies, and resolved to try to vaccinate his child himself with the secreted point. The squire implicitly followed the printed rules, and carefully avoided the method he had seen to fail; and in due time the part inflamed. Being ignorant of what ought to follow, he sent again for the surgeon, to whom he owned his having made a bungling attempt at Vaccination; and that he wished for his opinion upon the consequence. While he

was speaking, the practitioner maintained a supercilious, unconcerned air ; but when the arm was displayed, he started, and the crimson areola was reflected on his countenance.

There are several other methods in use for preserving vaccine lymph. A drop is sometimes inclosed between two bits of square glass : or it may be deposited in a small cavity, hollowed out of the centre of a piece of ground glass, and covered accurately with a flat piece of the same size. Lymph desiccated on glass is brought to a proper state for use, by mixing it up with a particle of cold water by the point of a lancet.

Vaccine crusts also, when powdered and triturated with cold water, are often efficacious : but it is advisable, that the puncture should be larger, or rather that a very small superficial incision should be made, and after the bleeding has ceased, abundance of theropy solution should be inserted. Crusts have been transported to the tropical climates, and kept for many months, without losing their properties. Ingenious methods have also been devised for attracting the lymph into small capillary glass tubes, and sealing them hermetically. By this means the lymph has been found liquid, and efficacious, after being transported across the Atlantic.

These are the chief methods in use for preserving lymph ; and as all occasionally succeed,

each has its partisans; and as all frequently fail, each has its enemies. But whatever means the surgeon employs to excite the infection, it behoves him to watch the progress of the vesicles: if these are regular, the specific power, that of preventing the Small Pox, always remains the same.

The election of proper vesicles from which alone lymph should be taken, is a consideration equally important with the methods of preserving it. For experienced and observing surgeons have sometimes perceived a tendency in vesicles to degenerate in several ways; and that the lymph of these degenerated vesicles produces others either of a similar kind, or which deviate further from the character of the perfect species.

Thus, in some, the inflammation is too slight, the vesicles too small, they finish their course too soon; no areola, or a very small one, forms, and the mark becomes faint or imperceptible. In others, the reverse is the case: the inflammation is premature, it rises to excess, the vesicles become large, pointed, and purulent; and finish by an amber-coloured scab, or an ulcer. On these occasions the mark which is left, is not the slight, superficial, indented impression of the true Vaccine; but a white, shining, strong-marked cicatrix; like that produced by the true Small Pox.

duced by variolous inoculation, or by a suppurating wound.

This kind of cicatrix has been remarked in many of those cases where the Small Pox occurred after Vaccination; and the displeased mothers have declared with anger, that their children certainly had the Vaccine properly, as their arms were very sore at the time, and a strong distinct scar remained.

Irregular or spurious vesicles, of the above descriptions, either afford no security against the Small Pox, or an imperfect one; and as they are nevertheless infectious, the mischief resulting from them has sometimes been extensive. An occurrence of this sort took place at Geneva and at Ceylon, upon the introduction of Vaccination, as has been related. The same circumstance happened at the island of Antigua, and several negroes were lost. Examples of a similar kind might be given in this country; and also of some suspicious accidents, where a number of persons in particular districts, had been vaccinated near the same period, all of whom afterwards contracted a mitigated Small Pox.

In fine, the occasional degeneration of the vaccine vesicle is an admitted fact among the experienced; and whenever it occurs, the lymph from that defective source ought no longer to

be employed ; but changed for another, where the vesicles have continued regular. It has not hitherto been requisite to recur to the original source of the infection on the teats of cows ; as the pure vaccine continues, after passing through a series of human bodies for eighteen years, to produce exactly the same effects as at first.

Two causes have been assigned for the occasional degeneration of the Vaccine.

One is, that the lymph was corrupted by keeping : and the other, that the secretion had become impure, from some distempered action in particular children.

With regard to the corruption of lymph, when carelessly or too long kept, it is generally found that such lymph is effete, and produces no effect whatever : but should it excite some irritation and even suppuration, the matter is not likely to be infectious. It therefore seems more probable, that the principal and perhaps the sole cause of the irregular Vaccine, is impure lymph, proceeding from the vesicles being irritated by accidental violence, or their action disturbed by some distemper in certain children. Cutaneous disorders are those which are chiefly suspected of altering the specific properties of the Vaccine : but, instead of verifying this by a series of direct experiments, I have always shunned vaccinating from doubtful vesicles, or unhealthy children.

This speculative point may in time, by fortuitous events, be fully ascertained: but the practical surgeon, who is employed to use the most efficient means for preserving those confided to his care from the Small Pox, can only perform his duty well, by vaccinating with the lymph of a vesicle correctly regular.

The next consideration is the operation itself.

For some years after the introduction of Vaccination, the ordinary practice was to make only one puncture: and when the surgeon or others wanted vaccine lymph, the single vesicle was punctured without hesitation, and often drained repeatedly during its progress, of the vaccine fluid. But it was not long before it was observed, that a few of the vaccinated subsequently contracted the Small Pox, though in a mild degree. This raised a suspicion in the profession, that in some peculiar habits the Vaccine might act locally, without effecting that change upon the constitution which was wanted.

This apprehension excited the early solicitude of that most intelligent surgeon John Pearson *, who remarked, that “ since the Vaccine

* On Vaccine Inoculation, by Robert Willan, M. D. F. R. S. &c. Vide Appendix, p. xii. General Observations, &c. by John Pearson, F. R. S. Esq. Surgeon to the Lock Hospital, &c. 1805.

“ produced, but little disorder of the constitu-
 “ tion, and is not attended by an eruption on
 “ any part of the body, except that to which
 “ the infectious fluid is applied, it would be
 “ very desirable to have some criterion, by
 “ which we could be assured that the vacci-
 “ nated person has undergone that inexplicable
 “ change which secures him against the Small
 “ Pox.

“ In the early part of the year 1801, I as-
 “ certained, that if a second inoculation with
 “ vaccine fluid be performed on the sixth or
 “ seventh day after the first, a pustule will arise,
 “ which proceeds in the usual manner, until
 “ the efflorescence appears round the pustule
 “ produced by the first inoculation; and that, as
 “ soon as this takes place, the second pustule
 “ begins to fade, and two or three days after-
 “ wards, disappears altogether. On mentioning
 “ this as a test of the specific action of vaccine
 “ fluid on the constitution, it was suggested,
 “ that a proposal of this kind might diminish
 “ the confidence of the public in the new inocu-
 “ lation. I acquiesced in the objection, and did
 “ not attempt to introduce this new mode of
 “ practice.”

The forbearance of Mr. Pearson at that cri-
 tical period was much approved of by Dr. Jen-
 ner; and it was remarked in a tract written by

Dr. Fraser*, that Mr. Pearson, "like a true philanthropist, was unwilling to offer any impediment to the progress of so beneficial a discovery."

It is singular, that in the same year Mr. Bryce†, a respectable surgeon at Edinburgh, also made experiments similar to those made by Mr. Pearson. Each were unquestionably independent of the other; and Mr. Bryce published his in the year 1803, conceiving that they would convey useful information.

This gentleman, indeed, tried the effect of revaccination during every period of the progress of a vaccine vesicle. He noticed, that, when the first operation succeeded, the inflammation excited by the second was accelerated; and, as soon as the primary vesicle acquired the areola, the second, however small it might be, also acquired a proportional areola, and both desiccated together.

Mr. Bryce, like Mr. Pearson, observed that this peculiarity of the second vesicle proceeded from the influence of the first; and he concluded that it might be relied upon as a sure test of the constitution being properly influenced, and secured from the Small Pox in future.

* Observations on Vaccine Inoculation. By Henry Fraser, M. D. &c. 1805. p. 25.

† Practical Observations on the Inoculation of Cow Pox, &c. By James Bryce, F. R. S. Edin. &c. &c. 1802.

Upon this opinion he founded a peculiar practice.

He advised that only one original vesicle should be excited ; and on the fifth or sixth day this was directed to be punctured, and the patient to be revaccinated on a fresh place with a little of his own lymph.

If the first vesicle should then proceed regularly to the termination, and should the second be accelerated, acquire an areola, and desiccate at the same time with the first, the Vaccination was to be considered complete. But should these events not follow, it was recommended to repeat the operation until the proper test was obtained ; or until the surgeon was satisfied, that the constitution resisted the further action of the Vaccine.

This plan was admired for its subtlety ; and when our acquaintance with the Vaccine was new, it appeared both refined and solid. But further experience has taught us, that, by this method of operating, there is great risk of imperfect Vaccination.

Mr. Dunning, of Plymouth *, first publicly announced the danger of trusting to a single

* Further Observations on the Practice of Vaccination. By R. Dunning. Plymouth Dock, 1805.

Sir Richard Croft, of London, entertained a similar opinion, and urged it in practice, but never published.

vesicle, which had been punctured or ruptured, and drained of its lymph. Such an occurrence, in his opinion, often prevented complete Vaccination, and left the patient, "if originally of a high variolous susceptibility," still liable to be infected with the Small Pox.

The prudence of the warning given by this very judicious surgeon has been fully confirmed since, though, when announced, it was little regarded; for, the notion of complete and incomplete, or perfect and imperfect Vaccination, was generally considered as chimerical. This, however, was originally the doctrine of Dr. Jenner, and multiplied facts have proved that it is well-founded.

The analogy between the Small Pox and the Vaccine has been shown to be close in every other point; and even in this there appears to be a coincidence.

Dr. George Fordyce was a distinguished teacher of medicine, and a close observer of the phenomena of diseases. He entertained an opinion, deduced from a number of experiments made fifty years ago*, that the Small Pox became more severe, and the constitution was more vio-

* Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge. London, 1793. Observations on the Small Pox, by George Fordyce, M. D. F. R. S.

lently affected, when inoculation was performed by several, and by deep punctures, than when it was done by a single superficial touch of the lancet. And, as the danger of a severe attack of Small Pox was always imminent, he advised the adoption of the latter mode.

The experiments, together with the conclusion drawn by the discerning and unbiassed mind of George Fordyce, upon the practice of inoculation, correspond precisely with facts observed, and deductions made, respecting Vaccination. But as the great danger in inoculation is the exciting a virulent attack, and the only risk in Vaccination is the occasioning too slight an effect, the practice in the latter ought to be the reverse of that which Fordyce counselled in the former operation.

In Vaccination, the governing principle which ought always to influence the surgeon, is to infect his patient most thoroughly with the virus. Little is to be feared from any excess of the vaccine fever; but an imperfect constitutional infection may produce a false security, and diminish or frustrate the benefit expected from the operation.

But in this business, as in others, the best practice was, perhaps, found out more by chance than by reason. For, in consequence of the immense demand made upon the National Vaccine Establishment for lymph, it became requi-

site to excite on each patient a number of vesicles; and the success which has followed is a decisive motive for adopting that practice.

As a general rule, it may be advisable to make two punctures in each arm: and when this is properly done, three vesicles at least will commonly arise, and if four are excited, it is never to be regretted.

If only two vesicles arise, neither should be opened or disturbed; and if the Vaccine proceeds regularly to the end, the Vaccination may be considered complete.

When three or more vesicles have been excited, lymph may be taken from this subject. But it is prudent always to leave two complete vesicles to pass through their course untouched.

Should an infant be so remarkably feeble, that any apprehension is entertained from the inflammation of four vesicles, the rule may be modified at the discretion of the surgeon; for the prudent will not only avoid the perils proceeding from negligence and cold indifference, but also eschew the practice of a most zealous clergyman of the Methodist persuasion whom I once saw operate.

This worthy man grasped his lancet firmly, but not after the fashion of surgeons. He continued alternately taking lymph from one infant, inserting it into another, and expounding his doctrine. A moment's pause occurring

in his discourse, I seized the opportunity, and, to stop a work of supervaccination, asked, "How many punctures he deemed necessary?" He proceeded with fluency, "So innocent is the lymph, so transitory its workings, and so lasting its effect, that be assured you cannot pour too much into the flesh." In pronouncing these words, he impressed the epithets on his hearers with an elevation of the voice, and on the child with a depression of the lancet, who shrieked at each gesticulation. Yet the mother, who would have been infuriate, had a surgeon extorted such screams, looked quite placidly at her revered pastor; being inwardly convinced, that all the pains taken and given by him, would in some mysterious way do good to her suckling. As surgeons cannot expect to meet with the same indulgence, they are recommended to be more merciful in their mode of operating.

In attending to the progress of the vesicles, an accurate observer will remark some difference in every individual case; but if the specific marks of the Vaccine continue to the end, all lesser variations are unimportant.

Thus the infection sometimes lies dormant for several days before the inflammation commences; some of the vesicles in the same person are later or smaller than others, yet all terminate nearly at the same period. The vesicles vary in size and turgescency: when very

turgid, the cuticle is apt to yield, and some of the lymph to escape. The appearance of the areola is also very various. In some cases it does not exceed an inch in diameter, and the colour is a light red, which fades away the second day. In others the colour is bright crimson, which extends nearly the whole length of the arm, and continues for several days. And the crusts are sometimes brown, and drop off in a fortnight; while on other occasions they become almost black, and adhere till near the fourth week. These varieties in the regular vesicle seem to depend upon the temperament of the patient, or upon his state of health, and do not impede the specific property of the Vaccine.

But when only one vesicle has been excited, although a regular one; or when more have arisen, if they have all been opened, ruptured, or injured by violence, it is imprudent to confide in them: and should the vesicles be all remarkably small, with very little fluid for absorption, and desiccate earlier than the full period; or should no areola, or an imperfect one, be formed, doubts should be entertained of the constitution being thoroughly affected. And lastly, should the inflammation take place with unusual rapidity, and the vesicles assume the appearance of a tetter, or acquire indented edges, become conical and purulent, and terminate either with yellow

amber-coloured scabs, or in ulceration; the disease is then to be considered as irregular or spurious, and no dependence is to be placed upon it.

The treatment, which in other medical cases is the chief consideration, is in the regular Vaccine the least; as the sole intention is, that the infection should complete its specific effect. The vesicles are therefore to be permitted to rise spontaneously to their full state of turgescency; and no check should be given by refrigerants to the inflammation, absorption, or desiccation. Neither should stimulants be employed, which might over-excite or change the proper action. All interference being unfit, there only remains that which is often the last refinement of medical practice, to do nothing. In many cases, however, the pressing solicitude of mothers compels the vaccinator to disorder repeatedly the tender bowels of infants, by purging off their wholesome aliments: for it is impossible to purge any injurious relics of the Vaccine. Yet in some very rare exceptions, a slight deviation from the negative treatment is admissible. The local inflammation in a peculiarly irritable habit, or from accidental injury, might become excessive: and the symptoms of fever might possibly run high. Should these occurrences happen, they ought certainly to be remedied. The application of cold water, or water

with a little vinegar, or acetite of lead, may be used to restrain the inflammation. Warm applications and poultices of every kind, by hindering the scabbing, are usually injurious. Even ointments, for the same reason, are apt to do harm in the early stage: but should an ulcer form, they are sometimes of use to heal it up.

As a simple puncture with a clean instrument has in some distempered habits induced an alarming erysipelas, such a circumstance may happen, and has followed a puncture from a vaccinated lancet. When this occurs, the remedies, both local and constitutional, will depend upon the symptoms, and ought to be conformable to the treatment of erysipelatous inflammation, when arising from other causes.

The symptomatic fever of the regular Vaccine very seldom exceeds the due bounds; but if it should, as it is usually of the inflammatory kind, it may be mitigated by aperient medicines: but if the symptoms should mark an opposite disposition, the remedies ought to be adapted to the indications. It can hardly be requisite to dwell upon the treatment of contingencies that are barely possible; but a much more important consideration is, what measure ought to be pursued, when there is reason to suspect that the Vaccine may not have excited the requisite effect upon the constitution. Upon the least suspicion of this, it was recommended

by Dr. Jenner to revaccinate; and when this is done effectually, it gives the fullest security against the future invasion of Small Pox. For no example, perhaps, can be quoted of a person who had been properly tested, having afterwards contracted that disease.

When the irregularity of the vaccine vesicles appears to be caused by any indisposition in the patient, it is advisable to postpone the test until the complaint is cured. But otherwise it may be employed without delay; and, as the risk in revaccinating is even less than in the first operation, it ought to be done in the same efficient manner, with recent lymph, if it can be procured, and with two punctures in each arm. Some of the effects which follow testing are unexpected. In persons on whom the primary Vaccination had either failed altogether, or had not acted fully upon the constitution, the test may be expected to excite regular vesicles in the usual form. But where the original operation had been efficacious, instead of vaccine vesicles, the test only raises up a devious inflammation, which varies in extent and duration in different individuals. It is singular that this inflammation usually commences sooner, and for two or three days is more violent, than in primary Vaccination. But this tumult generally subsides, and vanishes after the third or fourth day. In other instances it advances, and a

diminutive vesicle, or pustule, with sometimes a little areola, forms : which commonly desiccates before the sixth or seventh day. These appearances indicate that the original Vaccination had prevented the specific effects of the second, and would likewise prevent the Small Pox. The effects of the test in some rare cases, so nearly resemble vaccine vesicles, as to raise doubts whether the primary Vaccination had been effectual or not ; and the more so, as some few persons are susceptible of the Vaccine twice. Besides, when it has been irregular or interrupted, the constitution has sometimes appeared to have been partially protected. In such cases the testing may have been useful. Should no visible inflammation be excited by the test, it is unsatisfactory, and therefore ought to be repeated. And if it again fails, a trial ought to be made at a future period, when the habit of body may be in a different state.

The above instructions are few in number, and easily followed by whoever has the slightest tincture of medical knowledge ; yet their observance is of more real utility than any other point of practice. And, as it is of the greatest importance to multiply Vaccinations ; it is desirable that as many persons as possible should be engaged in this work. Unfortunately, they are in some degree limited by the professional decorum retained between different classes of

medical men ; though this ought always to be slighted, when the public good is concerned. No delicacy should inhibit physicians, and no regard should be paid to the monopoly of surgeons ; but every medical man, of whatever rank, degree, or order, should vaccinate as many persons as possible. Those especially who attend women in childbed ought to add to their care of the mothers at so interesting a moment, that of preserving the fruit of the womb from being cut off by the only disease which it is in their power to prevent. And as the charge of women of inferior condition always devolves upon midwives, they also ought to be instructed in Vaccination, which is much easier learnt than their other duties. By their agency the rising swarms of infants might be secured from the Small Pox, and a moderate remuneration would both secure them as proselytes to the new doctrine, and render them to the wives of labourers and peasants persuasive as well as loquacious preachers. The fear of mistakes, which they might commit, ought not to hinder their being engaged in Vaccination ; for these good women are usually selected for possessing superior shrewdness and sagacity : and in doubtful cases, they might apply to the neighbouring surgeon. It is not probable that they would make one mistake in three or four hundred cases ; which would form a slight inconvenience,

when compared with the advantage of securing all the remainder from the Small Pox. With every aid, however, universal Vaccination, which would instantly put an end to the Small Pox, cannot be looked for : but it has been exemplified in many places, that by a general encouragement of Vaccination, by preventing variolous inoculation, and by confining the infected temporarily under municipal restriction, the Small Pox can quickly be subdued. In ancient Rome, parents possessed the barbarous power of inflicting death upon their children : British parents only claim that of inflicting on them a disease, which kills a portion, and spreads an infection to those around, that till lately destroyed one tenth of the human race. Since we have lost the privilege of Roman parents, surely that of indirectly committing infanticide is not worth retaining. This is for the consideration of Legislators, who, by a moderate exertion of those powers delegated to them for the public good, might in a very short time totally extinguish the Small Pox. And when this shall have been effected, not only the Vaccine, by becoming useless, will be neglected, but even the books, alas ! upon the Vaccine will sink into oblivion. Perhaps, however, some fortunate tracts may be preserved on the dusty shelves of curious libraries, to unfold to future antiquaries the horrors; then hardly credible, of the variolous

pestilence, and to reveal to them the discovery of Jenner; whose name, or, in strange tongues, a sound imitating his name, is now articulated through the world, in huts, houses, and palaces, as a household word.

THE END.

